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1911-12



Oklahoma
Agricultural & Mechanical
College



1911

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STILLWATER, OKLAHOMA

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OKLAHOMA
AGRICULTURAL AND MECHANICAL COLLEGE

TWENTIETH
ANNUAL CATALOG
1910-1911

WITH ANNOUNCEMENTS FOR 1911-1912

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9 SEP 1914

STILLWATER, OKLAHOMA

Bulletin of the Oklahoma Agricultural and Mechanical College; Vol. VIII, No. 16; General Series No. 7.

Entered March 9, 1903, as second class matter under Act of Congress of July 16, 1894.

CHART OF OKLAHOMA A. & M. COLLEGE WORK

1. Students in Attendance on Courses of Study in— (1,848 students 1910-11)

AGRICULTURE
ENGINEERING
DOMESTIC SCIENCE AND ARTS
SCIENCE AND LITERATURE
TEACHERS' NORMAL
BUSINESS TRAINING
SHORT COURSES FOR
FARMERS
DAIRYMEN
COTTON GRADERS
TEACHERS

Oklahoma

Agricultural and Mechanical College

(The College after 20 years of development consists of 61 professors and assistants, a student body of 1,848 attending the past year, a group of eleven brick and stone buildings and two others under construction, a science equipment costing \$175,000, and 1,000 acres of land.)

Agricultural Experiment Station tests and tree publications.

Scientific research in behalf of Agriculture, and publishing results.

Lectures at Farmers' Institutes and other meetings.

Lectures at Teachers' Normals and Institutes, and publishing special literature.

Organizing Boys' and Girls' Clubs at home for the study of Agriculture, Domestic Science and related subjects.

Supplying lecturers and technical literature on Road Building, testing building material, etc.

2. The OUTSIDE Work for People of the State by—

(35,000 citizens receive reports and 5000 teachers addressed by College lecturers)

THE NEW STATE IS OUR PARISH

COLLEGE CALENDAR

1911

- September 4, Monday—The Fall Term Opens.
October 10, Tuesday—The Short Course in Agriculture and Domestic Economy Opens.
November 23, Thursday—Thanksgiving Day, a Holiday.
December 21, Thursday—The Fall Term Closes.

1912.

- January 4, Thursday—The Winter Term Opens.
January 8, Monday—The Butter Makers' Course Opens.
January 13, Saturday—The Butter Makers' Course Closes.
January 15, Monday—The Winter Short Course for Farmers Opens.
January 20, Saturday—The Winter Short Course for Farmers Closes.
February 22, Thursday—Washington's Birthday, a Holiday.
March 8, Friday—The Winter Term Closes.
March 8, Friday—The Short Course in Agriculture and Domestic Economy Closes, Graduation Day.
March 12, Tuesday—The Spring Term Opens.
April 22, Monday—The Annual Field Meet and the Annual Oratorical Contest.
May 4, Saturday—The Third Annual Northeastern Oklahoma Inter-scholastic Track and Field Meet.
May 24, Friday—The Annual Debate between Literary Societies.
May 25, Saturday—The Annual Senior Class Play.
May 26—Baccalaureate Sunday.
May 27, Monday—Commencement Day, the Spring Term Closes.
June 4, Tuesday—The Summer School (including the Summer Normal, the Summer Session of the College, and Summer Business Course), Opens.
July 12, Friday—The Summer School Closes.
July 1, Monday—The Cotton Grading School Opens.
July 27, Saturday—The Cotton Grading School Closes.
August 6, Tuesday—Annual Meeting of State Farmers' Institutes and the State Board of Agriculture.

(The Faculty reserves the right, without further notice, to modify any announcement made in this catalog, if circumstances render such change necessary, and in any event they will be bound by it for only the year following the date of publication.)

BOARD OF REGENTS**The Oklahoma State Board of Agriculture**

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HON. DAN DIEHL, <i>Vice President</i>	Gotebo
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Professor of Domestic Science

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Professor of English, Dean of Science and Literature Division

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Professor of Chemistry

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Professor of Entomology

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Professor of German and Latin

THOS. T. DUKE
First Lieutenant 23d Infantry, U. S. A.
Commandant of Cadets

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Professor of Political Economy and Social Science

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Professor of Agronomy

S. A. MARONEY, B. S.
Principal Sub-Freshman Department

JOSEPH WATSON, A. T. S. C.
Director of Music

* R. A. COVERDALE, M. Ac.
Principal Business Department

W. E. SCHREIBER, A. B.
Director of Physical Training for Men

.....
Principal of School of Agriculture

✓ A. P. LITTLE, B. S., E. E.
Associate Professor of Electrical Engineering

EMMA J. ROSS
Posse Gymnasium and Emerson School of Oratory
Director of Physical Training for Women

* Resigned March 15, 1911.

INSTRUCTORS

H. G. SELDOMRIDGE

Graduate Curry School of Expression

Instructor in Public Speaking and Assistant in English

W. P. WEBBER, A. M.

Assistant Professor of Mathematics

L. H. ROSE

Assistant Professor of Chemistry

CHARLES I. BRAY, M. S.

Assistant Professor of Animal Husbandry

✓ J. L. JONES, M. E.

Assistant Professor of Mechanical Engineering

A. C. HARTENBOWER, B. S.

Assistant Professor of Agronomy

ED. MCCARREL

Assistant Sub-Freshman Department

A. L. LOVETT, B. S.

Assistant in Entomology

MADGE BOOKS SANDERS

New England Conservatory of Music

Assistant in Music

✓ E. E. BREWER

Foreman of Shops

ADA HAHN

University of Grenoble, France

Instructor Drawing and Art Work

SAM GASKILL, LL. B.

Assistant Sub-Freshman Department

J. C. SKILLMAN

Assistant in Business Department

L. F. STEWART

Assistant in English

ADA BELLE HOUSE, M. A.

Assistant Sub-Freshman Department

ED. GALLAGHER, B. S.

Assistant in Physical Training for Men

* F. B. WILSON, B. S.

Assistant in Dairying

* Resigned February 1, 1911.

INSTRUCTORS

S. C. BEDINGER

Assistant in Business Department

C. H. McELROY, B. S.

Assistant in Bacteriology

P. J. DAVIS, LL. B.

Assistant in Physical Training for Men

BERTHA COMBS

Assistant in Physical Training for Women

A. H. WRIGHT, B. S.

Assistant Agronomist Experiment Station

IVA McBRIDE, B. S.

Assistant in Domestic Science

H. D. STROTHER

*New England Conservatory of Music
Instructor Violin and Band Instruments*

* W. S. ROBBINS

Assistant in Veterinary Science

RALPH McBURNEY, B. S.

Assistant in Chemistry

D. C. MOORING, M. S.

Assistant in Horticulture and Botany

Z. N. HOLLAR, A. B.

Assistant in Mathematics

MAUDE HENSHAW

Assistant in Music

F. R. BRADLEY

Assistant in Shops

C. W. SKINNER

Assistant in Shops

SUSIE CAGE

Assistant in Domestic Arts

R. V. McBRIDE

Poultryman

E. B. ROBBINS, B. S.

Graduate Assistant in Chemistry

* Resigned April 1, 1911.

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Supervisor Boys' and Girls' Agricultural Clubs

IRMA MATHEWS, B. P.
Supervisor Boys' and Girls' Agricultural Clubs

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L. L. LEWIS

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T. T. DUKE, *Chairman*; HARDEE CHAMBLISS, R. E. CHANDLER

SCHEDULE

A. P. LITTLE, *Chairman*; JOSEPH WATSON, CARL GUNDERSON

CATALOG

B. C. PITTUCK, *Chairman*, AND ALL HEADS OF DEPARTMENTS CONCERNED

COURSES OF STUDY

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J. H. BOWERS, HARDEE CHAMBLISS

LITERARY SOCIETIES AND STUDENT PUBLICATIONS

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GRADES AND REPORTS

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DISCIPLINE

HARDEE CHAMBLISS, *Chairman*; T. T. DUKE, J. H. BOWERS, L. L. LEWIS,
R. C. POTTS

Algebra (to quadrates)

Algebra (Complete)

Geometry (Plain)

Geometry (Solid)

United States History

Ancient History

Medieval History

Modern History

Civil Government

Physiology

Physical Geography

Physics

CERTIFICATE

(To be filled out by Superintendent, Principal or Teacher.)

I hereby certify that M. _____ attended the _____ School from _____ to _____ and was in good standing at the time of leaving. The following is a correct statement of the work completed in the subjects named.

In order that the applicant may receive the proper credits for work completed and that the College authorities may have a record of the applicant's preparatory training, Superintendents, Principals, or Teachers are requested to fill out each blank on this certificate.

SUBJECTS	TEXT BOOK (Full titles)	No. of Weeks Pursued	No. of Hours per Week	No. of Pages Completed	Grade
Reading					
Pennmanship					
Spelling					
Geography					
Grammar					
Rhetoric					
Composition					
English					
Arithmetic					
Higher Arithmetic					
Algebra (to quadrates)					
Algebra (Complete)					
Geometry (Plain)					
Geometry (Solid)					
United States History					
Ancient History					
Medieval History					
Modern History					
Civil Government					
Physiology					
Physical Geography					
Physics					

APPLICATION BLANK

FOR ENTRANCE TO

THE OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE

I herewith submit this application for the student privileges of the session 1911-12 in the Oklahoma Agricultural and Mechanical College, and do hereby sincerely promise on honor that if this application is granted I will faithfully obey the rules and regulations of the College, will support its constituted authorities in the administration of all its affairs, and I will not enter into or be bound by any agreement or combination with any person or persons for the accomplishment of any purpose at variance with the letter or spirit of the College rules and regulations, or act as a member of any College class, military company, or other organized body for the accomplishment of any such purpose. (A copy of the College rules will be sent on request.)

I do further sincerely promise on honor that I will not join or be a member at any time of any secret society, Greek letter fraternity, or organization of like character composed primarily of students, nor will I countenance or approve of student societies, organizations or assemblages other than those formally approved by the Faculty of the College so long as I am a student of this institution.

Signed _____ Age _____ Years.
Full Name. (Write each name in full. Do not use initials.)

Name of Parent or Guardian _____

Address of Parent or Guardian _____ Oklahoma.
(City or Town.) (County.)

Street or R. F. D. Number _____

Occupation of Parent or Guardian _____

School or College last attended _____ Did you Graduate? _____

What Grade did you complete? _____

Church preferred? _____ Are you a member? _____

Indicate by underlining which of the following courses of study you desire to take: *Agriculture; Engineering; Domestic Science and Arts; Science and Literature; Teachers' Normal; Business Course; Two Years' Course in Agriculture and Domestic Economy.*

NOTE:—After filling out this blank have the Superintendent, Principal, or Teacher of the last school which you have attended fill out the certificate on the reverse side of this sheet in order that you may be properly classified. Mail at least 10 days before the beginning of the session to J. H. Connell, President A. & M. College, Stillwater, Oklahoma, and you will be notified promptly regarding your application for entrance to the College. Graduates of Common Schools and High Schools applying for entrance at the College should bring diplomas or certificates with them. Before registering as a student of the College each applicant must present a statement from the school last attended showing that he or she was in good standing at the time of leaving school.

(Not to be filled in by applicant.)

Class admitted to _____ Course _____

By Examination. _____ Certificate. _____ Diploma. _____

Condition on _____

Entrance Credits on _____

(Adviser _____) Approved _____

Chairman of Committee on Entrance.



OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE.

The State Agricultural and Mechanical College is a State and Federal institution of higher and broader learning, offering industrial, scientific and liberal education to white persons 14 years of age and over. The College also conducts extensive investigations and carries forward research work to establish new scientific truths of value to the people of Oklahoma.

The College was organized in 1891, and after 20 years of sturdy effort now consists of 61 professors and instructors, 1,848 students attending last year, 11 large brick and stone buildings, and an equipment valued at \$175,000.00 and 1,000 acres of land.

Tuition is free in all courses and departments. The College is supported entirely by the Federal Government and by the State of Oklahoma as a part of the free school system.

LAWS CONCERNING THE COLLEGE

This College owes its origin to a bill offered by U. S. Senator Morrill, of Vermont, in 1862, which provided funds for one such institution of learning in every State of the Union, and set aside certain public lands from which endowments have come to each of these State and Federal colleges. Therefore these institutions are known as "The Land Grant Colleges". The National Grange gave the "Morrill Bill" cordial support and was largely instrumental in securing its final passage.

This act of Congress, approved July 2, 1862, gave to each State which accepted its provisions 30,000 acres of Government land for each one of its Representatives in Congress, the proceeds to be applied to the endowment and maintenance of colleges

"where the leading object shall be, without excluding the other scientific and classic studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts. . . . in order to promote the liberal and practical education of the industrial classes in the various pursuits and professions of life."

Again, in 1887, Congress provided for an Agricultural Experiment Station in connection with each of the Land Grant Colleges:

"That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture and to promote scientific investigation and experiments respecting the principles and applications of agricultural science there shall be established under the direction of the College in each State or Territory, established - - in accordance with an - - - - 'Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts' - - - - a department to be known and designated as an 'Agricultural Experiment Station'".

The First Legislature of the Territory of Oklahoma adopted a resolution assenting to and accepting the provisions of Congress and established the Oklahoma Agricultural and Mechanical College in Payne County, at Stillwater, December 25, 1890.

Congress also provided 250,000 acres of public land as a permanent endowment for the College in the Enabling Act granting statehood to Oklahoma.

The Oklahoma Constitution provides that the State Board of Agriculture shall be the Board of Regents of the A. & M. College in the following:

"Said Board (of Agriculture) shall be maintained as a part of the State Government and shall have jurisdiction over all animal quarantine regulations and shall be the Board of Regents of all State Agricultural and Mechanical Colleges . . ."

The Oklahoma Constitution is the only State Constitution recognizing the fundamental importance of Agriculture and Domestic Science. Our Constitution declares that

"The Legislature shall provide for the teaching of agriculture, horticulture, stock feeding and domestic science in the common schools of the State."

According to the Oklahoma State Statutes "*The Agricultural and Mechanical College shall be the technical head of the Agricultural, Industrial and allied Science system of education in Oklahoma*".

EDUCATIONAL POLICY

The Board of Regents has carefully considered the wide field of education in which this College was designed to perform its work and has approved courses of instruction prepared by the faculty embracing courses in agriculture, mechanic arts, military science, domestic science, teacher training and the "related branches, without excluding other scientific and classical studies" as expressed in the Morrill Act. All the courses offered, which are fully described in this announcement, are therefore essentially scientific, practical, industrial and professional, while at the same time providing a "liberal" education. These courses are of true college grade and each includes instruction in mathematics, English language, history, physics, political economy, etc. The degree awarded on completion of any of the four-year courses is *Bachelor of Science*.

The College carries on many lines of work not commonly known as "school work", though truly educative in all respects. It is the earnest desire of the management to assist in the educational work in behalf of grown people who may lack spare time to attend college. This is sought to be accomplished by sending out pointed and practical literature, by supplying well informed lecturers to popular gatherings and to meetings of farmers' and teachers' institutes or other conventions, *under conditions favorable to profitable presentation and discussion* of the subjects. The acts of Congress and the State Legislature make certain forms of this "college extension" work obligatory.

NEW STATE SCHOOLS OF AGRICULTURE

The College sustains intimate and important relations to the six "Secondary Agricultural Schools" provided for by the State Legislature.

These schools are in active operation in the five Supreme Court Judicial Districts of the State and the Panhandle counties. Each has its Superintendent and Faculty of instruction with earnest classes composed of boys and girls who desire an education with industrial training. The Schools are located as follows:

The Connors State School of Agriculture, Warner, Muskogee County, for the First Supreme Court Judicial District.

The Murray State School of Agriculture, Tishomingo, Johnston County, for the Second Supreme Court Judicial District.

The Haskell State School of Agriculture, Broken Arrow, Tulsa County, for the Third Supreme Court Judicial District.

The Cameron State School of Agriculture, Lawton, Comanche County, for the Fourth Supreme Court Judicial District.

The Connell State School of Agriculture, Helena, Alfalfa County, for the Fifth Supreme Court Judicial District.

The Panhandle Agricultural Institute, Goodwell, Texas County, for the Panhandle Agricultural District.

FINANCIAL POLICY

The Agricultural and Mechanical College derives support from both Federal and State Governments:

1. A fund derived from the United States Government that may be used for certain grades of class instruction in the College, known as the "Morrill Fund". This fund can be expended only for instruction of students in literature, languages, the sciences, and by a recent amendment to prepare school teachers in the principles of agriculture and domestic science.

2. The United States Government funds for investigation of scientific and agricultural matters of importance to farmers and for publishing the results of such tests and experiments; known as the Hatch and Adams funds. These support the Oklahoma Agricultural Experiment Station.

3. A fund derived from the rentals of public lands donated by Congress to this College under the Enabling Act granting statehood to Oklahoma, known as the "Land Lease Fund". This fund may be used for operating expenses of the College proper.

4. A fund apportioned annually or biennially by the State for buildings, repairs and extensions to the permanent equipment of the College.

The fact that all the actual expenses of the College are paid by the State and Federal Governments enables the young men and women of Oklahoma to secure an education in any one of the several divisions of the College without expense except for board, clothing and books. The College thus becomes a part of *the great free school system* of the State. All students attending the College are encouraged to earn at least a part of such personal expenses as a matter of business training. The experience of recent years proves this to be a wholesome policy.

GRADUATES OF THE COLLEGE

The life of the entire student body of the College is marked by practical purpose and earnest work rarely found in any institution. Scores of graduates of the College (and many more who have pursued studies here without graduating) have gone out from the institution and now reflect credit on the system of education maintained here. These measure up to the highest standard of educated citizenship set by the oldest and largest colleges and universities in America. As scientists, as master workmen, as farmers, as agricultural experts, dairymen, electrical and civil engineers, school teachers, business men, accountants, teachers of domestic science and art, as fathers, mothers and citizens, these have added to the progress of the State and Nation and have justified the hopes of their families and friends.

SCOPE

The chart shown in the front of this catalog will clearly indicate the present organization, purpose and field of work of this institution as the head of the New State system of "applied science education" in Oklahoma.

The subjects taught are graded in the following Divisions and Courses: Agriculture, Engineering, Domestic Science and Arts, Teachers' Normal, Science and Literature, and Business Training.

INSTRUCTION FOR TEACHERS

This College is entering freely into the work of preparing teachers for the profession, as teachers of science, the industrial subjects, and common branches.

The Constitution of Oklahoma (Art. XII Education) declares:

"The Legislature shall provide for the teaching of agriculture, horticulture, stock feeding and domestic science in the common schools of the State."

The First State Legislature created the Chair of Agriculture for Schools in this College:

"whose duty it shall be to direct and advise in all matters relating to the teaching of agriculture and allied subjects in the institutes, the summer normal schools and the State Normal Schools, common schools, - - - He shall visit the schools, the teachers' advise with the teachers and officers concerned, - - - and shall

prepare, print and distribute such leaflets and other literature as may be helpful to teachers and pupils concerned or engaged in teaching industrial, practical and scientific subjects."

The law also states that :

"the Agricultural and Mechanical College, its president, professors and employes shall lend such assistance in carrying out the object, aims and purposes of the State Constitution regarding the teaching of agriculture and allied practical subjects as shall not conflict with the immediate duties incumbent on them in said institutions."

The then State Superintendent, E. D. Cameron, appeared before the Board of Regents and explained the necessity for the College rendering all assistance within its power in training efficient teachers, and urged the introduction of the special course for teachers. The Board authorized the faculty of the College to plan and inaugurate such a course.

Teachers' Normal Course: On the recommendation of the State Superintendent, and in harmony with the legislative enactments, there has been established a regular collegiate course of instruction known as the Teachers' Normal Course, which affords instruction in all common school, graded and high school subjects, and embodying scientific and industrial branches. The present demand in this State for trained teachers in technical subjects is already very great.

Summer Normal Institute: To further supply the demand in Oklahoma for trained teachers, this College conducts a complete summer normal institute for teachers. Members of the College faculty are available as instructors and specialists of note are also employed to assist in making the institution of greatest value.

The work of the "Department of Agriculture for Schools" in this institution in behalf of all the teachers and schools of Oklahoma, is carried forward with vigor, assisted by experts and scientists from a number of other departments of the College.

Serious responsibilities have been placed on the A. & M. College by Congress and by the State Legislature in *preparing and training teachers* to instruct our children in *agriculture, the industries and home building*.

PURPOSES

The aims of this College are not merely to train students for increased production or to double or quadruple the earning capacity of the young people who attend the College, but a distinct effort is made to train and inspire them to be useful citizens of the highest types. The training and knowledge thus acquired will prove a lasting power for good to the individual student and to the State in which we live.

The primary purpose of all the work done by this institution is to render the youth of Oklahoma more capable and effective; to increase vitality and to add intellectual, moral and creative power; to clarify the ambitions of immature minds; to enrich the ideals of youth, and to make the lives of all who come in contact with the College and its work brighter, purer, and better.

The style of education afforded here does not stop with increase in skill or the acquirement of the "three R's". It goes further and accomplishes true education, the development of the whole man—the hand, the head, the heart.

By adding "skill" the man's efficiency is increased three-fold; by adding to skill education his productive power is again multiplied by at least three—a nine-fold gain over the unskilled, uneducated man! Here lies the problem of higher standards of living and citizenship "for the industrial classes in the various pursuits and professions of life".

The purposes of the institution may be stated more specifically as follows:

In Agriculture: To equip young men for expert and scientific work as practical farmers, as scientific authorities and investigators, as teachers, and as valuable contributors to the advancement of scientific agriculture; in its short courses to give the maximum of scientific agricultural training and information in the minimum of time to those who cannot take a collegiate course; and in its Experiment Station work, by research and experimentation, to be a trusted guide and leader to the farmers of the State.

In Engineering: To fit young men for positions of profit, responsibility, and usefulness in the professions of mechanical, electrical, architectural, and civil engineering.

In Applied Science: To give such proficiency in one or more

of the natural sciences as will enable the graduate to conduct research work on his own account, to accept positions which require expert service, and to become a reliable authority in his chosen science.

In Domestic Science and Arts: To prepare young women for the duties of home-making in all its branches as specialists; to prepare teachers, matrons, etc., for the government service.

In Teachers' Normal Training: To educate and train young men and women to become expert teachers of high professional standing, having first a broad foundation consisting of the common branches and the natural sciences.

In Business Training: To prepare young men and women for acceptable service as clerks, stenographers, bookkeepers, and for other positions in the business world.

In Citizenship: So to train young men and women as definitely to fit them for service profitable to themselves and valuable to the State; to this end training the eye and the hand as well as the mind and the heart, seeking thus to realize the purpose declared by Congress, of promoting "the liberal and practical education of the industrial classes in the various pursuits and professions of life".

It must not be understood that all of the lines of instruction named above can be given to one student. A further reading of the catalog will disclose the several courses and the choices which are open to the student.

LAND AND BUILDINGS

The College campus, farm, and experiment grounds embrace a tract of 1,000 acres.

The present College buildings were erected by the State at a cost of over \$341,000.00, and they are equipped with the latest and best appliances and apparatus, representing an outlay by the State and Federal Governments of approximately \$175,000.00. All buildings are steam-heated, electric lighted, and have sewer connections.

The Domestic Science Hall and Girls' Dormitory cost \$62,000.00. This new building is the most complete, modern and convenient structure on the College grounds. It will be open to girls at the beginning of the new college year. This building contains

gymnasium, dining hall, kitchen, reception hall, parlor, classrooms for domestic science, domestic arts, drawing and art work, and living rooms for the accommodation of girl students. Rooms are electric lighted, steam heated, and all halls are equipped with lavatories, baths and other aids to the health of girls attending the College. The building will be under the supervision of a competent matron.

Twenty-five thousand dollars has been devoted to the erection of a dormitory hall, to be used as a home for young men.

The College has also a well selected Library of 14,120 volumes, besides some 30,000 unbound publications. All of the desirable current publications are received. Two specially fitted rooms of large dimensions are devoted to library use.

"Morrill Hall," named in honor of Senator Justin S. Morrill by act of the Legislative Assembly providing for its construction, is the most important building now occupied by the College. The cost complete, with heating plant, was \$75,000.00. It contains quarters for the administration and business offices of the College and Station, and suitable offices, lecture rooms, and laboratories for the departments of animal husbandry, agronomy, horticulture, and agricultural chemistry, and the chemistry laboratory of the Experiment Station. The armory and the classrooms for instruction in English, history, pedagogy, German and Latin are located in Morrill Hall. There are fireproof vaults on the first and second floors. The general dimensions of the building are 76 by 166 feet.

"Library Hall" is a brick and stone building, two stories and basement, 76 by 72 and 111 by 65 feet. It is used, in addition to the accommodation of the library and reading rooms, for the departments of zoology and veterinary science, music, physical training for girls, domestic economy, and the general auditorium, with lecture rooms, toilet rooms, etc., in the basement.

"Central Building" (the original building of the College) is a two-story brick and stone building with a basement 66 by 60 feet. It is now used for instruction in mathematics, English, and business courses, and contains the printing office of the College.

The "Chemistry Building" is a two-story brick structure with basement, the main portion 64 by 42, wing 54 by 32 feet. It is

used solely for instruction in chemistry and for the offices of the department.

The buildings of the Engineering Department consist of a structure of brick and stone, 80 by 47 feet, two stories with basement, devoted to the classroom work of the department, drawing room, reading room, and offices; the new shop building, of brick, with a two-story portion 72 by 36 feet, and a wing 180 by 40 feet, containing the classroom, drawing rooms, and office of the department of civil engineering, a testing laboratory, blacksmith shop and foundry, and also the gymnasium; the old shop building, a two-story stone building, 80 by 30 feet, containing the machine shops, electrical laboratory, and the woodworking shops; and the boiler house, a stone building, 60 by 40 feet.

A new building with new heating plant has been completed during the past year at a cost of \$40,000.00. This is equipped with efficient boilers, dynamos and engines.

The "Dairy Building" is a brick structure of two stories, 60 by 30 feet, containing the class and operating rooms of the department, and also the equipment for a moderate volume of commercial dairy work. An addition will be made to this building and its capacity materially increased during the coming summer.

There is also a brick barn, 60 by 96 feet, a large frame barn recently completed, two residences, two greenhouses, and several other structures.

NEW BUILDINGS

No better indication of the steady growth of the College could be had than by noting the growth in its buildings. To the 11 large structures ready for use there will soon be added others for which appropriations are now available.

The new \$15,000.00 Live Stock Judging Pavilion is a two-story brick structure. It will afford ample accommodations for the study of the fine live stock owned by the College. This building will contain two large classrooms, and in addition a large amphitheater with a seating capacity of between 400 and 500, and an arena fifty feet square.

By act of the Third Legislature and approval of the Governor,

the following new buildings were provided for and will soon be erected on the College grounds:

Engineering Building.....	\$75,000.00
Chapel and Library.....	84,300.00
Addition to Creamery, modifying present	
Library Building, modifying present	
Shop Building.....	11,650.00

A general engineering building will be constructed during the college year 1911 and 1912 to cost \$75,000.00. The present plans contemplate a building 160 by 80 feet of three stories, constructed of brick with stone trimmings. On the first floor will be located the engineering laboratories. These will comprise laboratories for testing cement and road materials; steam and hydraulic laboratory, and a large electrical engineering laboratory. On the next floor will be located the engineering classrooms and offices, and also an engineering library and reading room, and the third floor will be devoted to drafting rooms.

A larger chapel and library building will be erected from funds now available, to cost \$84,000.00. Besides affording better accommodations for our present crowded assembly hall and the reading rooms, the erection of this new building will afford increased classrooms and laboratories by adapting the present Library Building to academic purposes.

These important additions to the physical property and equipment of the College are required to accommodate the fast growing work of instruction with hundreds of students, in matters of agricultural investigation and research, and in printing and publishing helpful, educational, and industrial facts to the people in all counties of our State.

EQUIPMENT

In chemistry, physics, mineralogy, botany, zoology, bacteriology, entomology, physiology, agriculture, horticulture, and veterinary science, the College is equipped with the most modern appliances and apparatus, consisting of collections, models, charts, microscopes, balances, etc. For discussion of each of these see department statements in this catalog.

REQUIREMENTS FOR ADMISSION

Monday, September 4, and Tuesday, September 5, 1911, will be devoted to the examination and classification of new students. All candidates for admission, whether by certificate or examination, should present themselves at the President's office and report to the Committee on Entrance Monday morning at nine o'clock, or as soon thereafter as possible.

Former students of the College will apply for registration Wednesday morning, September 6, to their advisers.

Students intending to apply for admission by examination are urged to satisfy themselves, before coming to the College, that they can pass a reasonable examination in the subjects required.

Students entering classes in January at the beginning of winter term, or at other times, must be prepared to join established class work.

County Superintendents of Oklahoma will hold examinations for entrance to the College as required by law during the months of August (for September entrance), and in December (for January entrance). The questions will be supplied from this College and papers graded at the College.

Specimen examination questions are printed on the last few pages of the body matter of this catalog.

Applicants for the Short Course in Agriculture and Domestic Science, opening October 10, should present themselves for registration on that date. No entrance examinations are given to such applicants.

Students may be admitted to the College in one of three ways: (a) by certificate, (b) by examination, (c) by special assignment. Candidates for admission by certificate should present to the Committee on Entrance a statement from the last school attended, showing classification, grades, and the amount of work covered in each subject. Entrance examinations are chiefly written, and candidates must make a grade of 70 per cent to pass in a study. All applicants must have attained their fourteenth year. Applicants to the Sub-Freshman class living in towns having high schools must be sixteen years of age.

To the Sub-Freshman Class

The Sub-Freshman Class has been established to secure, under competent instruction, a higher degree of efficiency in the studies which prepare for the more advanced collegiate work, particularly in English and mathematics. Boys and girls fourteen years of age or over will be admitted to this class if sufficiently advanced in school subjects, provided that applicants living in towns supporting high schools must be sixteen years of age. Applicants may be admitted to this class without examination on satisfactory records from the eighth grade of city schools if sixteen years of age, or on diplomas from common schools. Applicants from other schools must pass a satisfactory examination in reading, spelling, penmanship, geography, United States history, grammar and arithmetic. The foregoing requirements also apply to the entrance to the Business Course.

To the Freshman Class

Students who have satisfactorily completed the *tenth grade of approved high schools* may be admitted to the Freshman Class without examination. Other applicants must pass examination in subjects above mentioned, and in higher arithmetic, algebra to quadratic equations, elementary rhetoric and composition, physiology, and general geography. (For specimen examination questions see index for page number.)

To Advanced Standing

Graduates of approved high schools may be admitted to the Sophomore Class on their diplomas without examination, conditioned on such technical subjects as the heads of departments concerned may indicate. Graduates and under graduates from other colleges and universities of good rank and standing will be admitted and granted such credits as their work will justify, so far as this work applies in any of the courses offered in the College.

Approved Schools

Graduates of approved high schools will be admitted on their diplomas without examination to the work of the Sophomore year.

Admission to Other Applicants

Holders of common school diplomas will be admitted to the Sub-Freshman Class without examination, under conditions given above. Pupils of *city schools* who can present satisfactory records from the *eighth grade* may also be admitted to this class. Pupils of city schools who have satisfactory records from the *tenth grade* may be admitted to the Freshman Class.

Pupils having no diplomas will be admitted to the *Sub-Freshman Class* and to the *Business Course* by passing a satisfactory examination in reading, spelling, penmanship, geography, United States history, grammar and arithmetic.

Pupils having no diplomas will be admitted to the *Freshman Class* by passing a satisfactory examination in the subjects before mentioned and in higher arithmetic, algebra to quadratic equations, elementary rhetoric and composition, physiology, and physical geography.

Under the rules of the College, applicants failing to pass entirely satisfactory entrance examinations in *any two* of the subjects above named may be permitted to enter the class and pursue the studies of that class on condition that the deficient subjects be taken up as "back work" and mastered during the term. The latitude thus given will permit pupils from those schools in which physiology, physical geography or some other required subjects are not taught to enter the desired classes "conditioned".

COST OF ATTENDANCE

Board and Rooms

Rooms and board for students rooming in the Woman's Building or in the Boys' Dormitory will be provided at the following rates: Furnished room (two students occupying each room) \$3.00 per month, payable in advance; board including heat, lights, water, etc., \$3.50 to \$4.50 per week, payable monthly in advance. Application for dormitory accommodations must be made in writing. Those occupying rooms in the dormitories must furnish towels, bed linen and covers.

Rooms in the College Dormitory for Boys and in the

Woman's Building will be ready for use during the fall of 1911. The buildings contain bathrooms and all necessary facilities, are thoroughly sanitary, heated by steam and lighted with electricity.

A copy of the rules governing assignment of rooms and the operation of the College Dormitories will be sent on application.

Board with room in private families can be obtained for \$3.50 to \$4.50 per week. Furnished rooms, \$2.00 to \$4.00 per month, if two occupy the room.

Other Expenses

The total cost of attending the regular College courses embraces the items of board, books, clothing, and minor incidental expenses of a personal character. These may be safely estimated at \$160.00 to \$200.00 for nine months. About 50 per cent of the students materially reduce their expenses below the figures given by working in the several departments of the College and in the city of Stillwater, and many earn all personal expenses by diligent application.

Tuition is free. The incidental fee is \$1.50 per term. Text-books will cost from \$3.00 to \$8.00 per term. Special students in stenography and typewriting are charged \$2.00 per term for the use of typewriter. A nominal fee of \$2.00 per term is required of all students taking Sophomore Chemistry (Course 1 *a-b-c*) and is supposed to cover cost of chemicals in lectures and laboratory work. This fee for Juniors and Seniors is \$1.50 per laboratory course per term. A contingent fee of \$3.00 per term is required of all students taking laboratory work in chemistry. This fee is returnable wholly or in part according to the amount of loss which the department equipment may suffer from its use by the student. Students in mechanical drawing are required to purchase their own sets of instruments, though the College will undertake to furnish them at the cheapest rate—about ten dollars. Students taking piano or voice will be charged \$2.00 per term for the use of piano. Musical instruments for practice use supplied by the College will be charged at the rate of \$1.00 per month.

Amount Required to Begin

Those students of limited means desiring to enter the College should have some \$50.00 available with which to bear the first

items of personal expense and make sure of some months' consecutive study. This amount is estimated for young men to include:

Board and room two months.....	\$30.00
Books, etc.....	6.00
Incidentals.....	3.85
Military uniform, hat, shirts, coat and trousers	17.15
	<hr/>
Personal expenses.....	\$57.00

With such sum in hand or available the industrious student may by his own efforts secure three or four months, or even a longer period, of study in the College. The same estimate will apply to young women if cost of uniform be deducted. Extravagance in all forms is discouraged. Every dollar earned by the student's personal effort results in saving two dollars in unnecessary expenditure. Freshmen and Sub-Freshmen boys must supply themselves with gymnasium suits costing \$3.00. Girls of the Sophomore, Freshman and Sub-Freshman classes must supply themselves with gymnasium suits costing \$6.00.

ADVISERS TO STUDENTS

To bring about a closer relation between students and members of the Faculty, and for the purpose of safeguarding every interest of the individual student, the College has adopted an "advisory system" which applies to all students. A small number of students are assigned to each instructor, who is known as their adviser for the year, and whose duty it is to know each of them personally, and to meet them from time to time. All instructors serve as advisers. The adviser endeavors to become familiar with the conditions surrounding his students. He calls in case of illness and will notify the parents of his visits at such times and of the general care shown. Parents should not hesitate to write concerning matters that may have to do with the students' comfort and progress in their studies.

Care of Health

The health of all students is a matter of chief concern to the officers of the College. The rules require that all cases of illness

State should seek their collegiate training within its borders. The expenses, as set forth in preceding paragraphs, are very low—much lower even than in any of the immediately surrounding States, and but a fraction of the necessary cost of attending eastern institutions. The nearness to home in case of accident or sickness is to be borne in mind. The institution is supplied with the latest and most approved equipment in all lines of scientific work. Its instructors are specialists in their respective departments, drawn from the leading technical schools of the country. Its work is fully accredited elsewhere, whether for graduate work, or for employment in technical, industrial, educational, or Government service. There is no longer, in brief, any necessity of going beyond the limits of the State in order to secure an approved collegiate education. Moreover, if the student expects to live in Oklahoma, the acquaintance formed in his college life, of hundreds of other young men and women throughout the State will be an invaluable source both of profit and pleasure to him.

GENERAL INFORMATION

The seat of the Agricultural and Mechanical College is Stillwater, in Payne County, a "college town" of five thousand people, most beautifully and healthfully situated at an elevation of 915 feet above sea level. Stillwater citizens and students of the College enjoy the advantage of electric lights, telephones, free delivery of mail, a city water system, sewerage, and a very complete system of brick walks shaded continuously by trees.

How to Reach College

Stillwater is on the Santa Fe Railroad (Arkansas City and Pauls Valley Branch). The main connections are at Guthrie, Pawnee, and Shawnee as follows, according to time tables in effect April 1, 1911:

From Perry, Enid and the northwest take the Frisco, arriving at Pawnee at 10:00 a. m. Take the Santa Fe at 10:47 a. m. for Stillwater, arriving at 11:45 a. m.

From Tulsa and the northeast take the Frisco, arriving at

Pawnee at 6:10 p. m. Leave at 7:05 a. m., arriving at Stillwater at 8:10 a. m. If more convenient go via Davenport or Cushing. From the east and southeast, arrive at Shawnee to take the 1:00 p. m. Santa Fe, reaching Stillwater at 3:35 p. m. This train passes through Davenport at 2:07 p. m., and through Cushing at 2:45 p. m.

From the south, southwest and west, reach Oklahoma City to take the 3:45 p. m. Santa Fe northbound, which makes direct connections at Guthrie for Stillwater, leaving Guthrie at 5:10 p. m. and reaching Stillwater at 7:10 p. m.

Moral Influences

Eight leading churches are represented in Stillwater and the students are encouraged to attend and participate in their services. As a matter of fact, the Sunday Schools and the young people's societies of the several churches are sustained very largely by the students from the College.

A Young Men's Christian Association and a Young Women's Christian Association are actively engaged in the numerous and beneficial lines of work characteristic of these organizations among students. An active Bible Study Class is supported by the male students. These student organizations are not merely helpful to their membership, but exert a wholesome influence on the moral life of the College. Social gatherings and entertainments are made to contribute to the moral welfare of the students of both sexes, and these add to the address and composure of those who seek the helpful influences of this institution.

Examinations

In addition to the regular monthly tests, examinations are held in all classes at the close of each term. A student who has made a grade of ninety or more in a given subject may be excused from the term examination at the discretion of the instructor. Reports of class standing will be supplied parents or guardians six times in the course of each year.

The Honor System

All examinations and tests are conducted under the Honor System. While the examinations are always given under the

Athletics, Military Drill and Discipline

The constant purpose of the College is to develop "sound minds in sound bodies" and to train the moral faculties. Clean sports and games on the field cultivate the mental and moral sides of the individual as well as the physical side, while affording needed occasion for relaxation and the repair of muscular and nerve tissue. Ball games and track athletics are encouraged by the College authorities.

The College Gymnasium for men is under the supervision of a competent physical director. The exercises in the Women's Gymnasium are directed by competent lady experts.

The A. & M. track team won the State championship of Oklahoma at the Oklahoma City meet in the spring of 1909, and championship of the Southwest at Austin, Texas, the same season. The team won first in Oklahoma athletics in the seasons of 1909, 1910 and 1911.

The Northeastern Interscholastic Track and Field Meet is held on the College grounds annually, to which the schools of all sections of Oklahoma are especially invited. Nineteen schools participated in these events the past spring.

Baseball and football are provided with suitable grounds, and tennis courts are at the disposal of students.

Military drill is given for its physical and disciplinary effects, as required by the Federal law establishing this and other similar Colleges. The good results of this drill are quickly noticed in the improved health and carriage and deportment of those coming under its helpful influences. Young men, especially, need such training to give the erect carriage and strong physique that marks the man of military training. The power to supervise work and command men can only be gained by those who obey and can perform the work when called on.

An officer of the United States Army is assigned to duty at the College as commandant of cadets. Instruction in military science is provided for all male students and infantry drill is given in the field movements and under arms. Arms, accoutrements, and ammunition have been supplied by the Federal Government. The military discipline is mild but firm, and cultivates habits of punctuality, alertness and the sense of personal responsibility. Its

good effect upon the physique and the health of the students is of added benefit to the gymnasium work.

A distinct effort is made to develop a progressive college spirit in the characters of all who attend this College. The discipline is morally sound and very systematic in its helpful influence on mind and body. As far as practicable the discipline is adapted to the varying needs of different dispositions coming under its influence.

Honor Students

The honor students for the session 1910-1911 are as follows:

Senior Class: Annabel Stewart first; Evelyn Aikins second.

Junior Class: Edward E. Bartlett first; Ellsworth Bartlett second.

Sophomore Class: J. C. Sieglinger first; John B. Ford second.

Freshman Class: Ella Morrow first; Harry Roeser second.

Sub-Freshman Class: Alfred Drummond first; William Oxley second.

Prizes

Two prizes of \$15.00 and \$10.00 are offered by the President for excellence in the Freshman class. The first prize was won by Ella M. Morrow, and second prize by Harry Roeser for the session of 1910-1911. Engrossed commissions are awarded the commissioned officers of the corps, and a handsome sword is given to the captain having the best drilled company. The sword was won in May, 1911, by Captain Dallas H. Watson of Company C.

The Alumni Association offers cash prizes of \$10.00 to athletes of the College as follows:

1. A prize of \$10.00 to the member of the football team having the highest class standing for the entire college year.

This prize was won by N. E. Winters of the Senior Class for the session of 1910-11.

2. A prize of \$10.00 to the member of the men's basketball team having the highest class standing for the entire college year.

3. A prize of \$10.00 to the member of the baseball team having the highest class standing for the entire college year.

Under the present organization the studies of the College are grouped into the following divisions:

1. Agricultural Division.
2. Engineering Division.
3. Domestic Science and Arts Division.
4. Science and Literature Division.
5. Teachers' Normal Division.
6. Business Division.

THE AGRICULTURAL DIVISIONW. A. LINKLATER, *Dean*

The Courses in Agriculture are:—

The Regular Course.

Short Courses:—

1. Two Years' Course in Agriculture and Domestic Science and Arts.
2. Farmers' Short Course.
3. Four Weeks' Course in Creamery Buttermaking and Creamery Management.
4. Two Weeks' Course in Ice Cream Making.
5. One Week's Course in Milk and Cream Testing.
6. Industrial Buttermakers' Course.
7. Cotton-Growers' Course.

Departments of Instruction in the Agricultural Divisions are:—

1. Department of Animal Husbandry.
2. Department of Agronomy.
3. The Department of Dairy Husbandry.
4. Department of Horticulture and Botany.
5. Department of Short Courses.

The subjects of the Agricultural Division are taught by the following departments:—

The Department of Animal Husbandry.

The Department of Agronomy.

The Department of Dairy Husbandry.

The Department of Horticulture and Botany.

The Department of Zoology and Veterinary Science.

The Department of Mechanical and Electrical Engineering.

The Department of English.

The Department of German and Latin.

Outline of Four-Year Courses in the Agricultural Division, Giving Subjects and Hours

The figure and letter, following the department name, signify the serial number of the subject and whether the terms' work indicated is the first (a), second (b) or third (c) term's work in the same subject. The name in parentheses is the specific name of the subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught,—classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length and is equivalent to one hour classroom work in estimating number of hours per week to be taken. Students must take, including electives, at least eighteen hours work per week and not more than twenty-three hours, without special permission. Junior electives are open to Seniors and Senior electives are open to Juniors, upon approval of adviser and head of department concerned.

FRESHMAN YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 1a.....4	English 1b.....4	English 1c.....4
Mathematics 1a.....5 (Algebra)	Agronomy 1a.....5 (Geology)	Agronomy 1.....4 (2) (Farm Machinery)
Physics 1.....4 (2) (El. Physics)	Mathematics 2a.....4 (Plane Geom.)	Mathematics 2b.....5 (Plane Geom.)
History 1a.....4 (Ancient History)	History 1b.....4 (Medieval Hist.)	Pub. Speaking 1c..... (2)
Animal Hus. 1a..... (2) (Stock Judging)	Animal Husb. 1b..... (2) (Stock Judging)	Botany 1a.....3 (4) (Ele. Botany.)
Drawing 1a..... (4) (Freehand Drawing)	Engineering 1..... (4) (Woodwork)	
Blacksmithing (2)	Public Speaking 1b (2)	
Public Speaking 1a ... (2)		

SOPHOMORE YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 2a.....4	English 2b.....4	English 2c.....4
Chemistry 1a.....3 (4) (Inorgan. Chem.)	Chemistry 1b.....3 (4) (Inorgan. Chem.)	Chemistry 1c.....3 (4) (Inorgan. Chem.)
Botany 1b.....2 (4) (Ele. Botany)	Agronomy 2.....3 (4) (Soils)	Agronomy 4.....3 (2) (Farm Crops)
Dairying 1.....2 (4) (Ele. Dairying)	Animal Husb. 2a.....3 (4) (Breeds)	Animal Husb. 2b.....2 (2) (Breeds)
Zoology 1.....3 (4) (Gen. Zoology)	Horticulture 1.....3 (2) (Orchard Fruits)	Agronomy 3.....1 (2) (Grain Judging)
		Horticulture 2.....4 (Veg. Gardening)

JUNIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Physiology 1.....3 (4) (Adv. Phy.)	Botany 3.....2 (2) (Plant Phy.)	Botany 4.....2 (4) (Plant Pathology)
Botany 2.....3 (4) (Plant Phy.)	Animal Husb. 3a.....3 (Prin. of Breeding)	Animal Husb. 3b.....3 (Practice of Breeding)
Chemistry 2.....3 (4) (Adv. Inorgan. Chem.)	Chemistry 7.....2 (4) (Ele. Org.)	Entomology 1.....3 (4) (Ele. Entom.)
	Agronomy 5.....3 (4) (Soil Physics)	Chemistry 10.....5 (Agri. Chem.)
	or Dairying 2.....3 (4) (Adv. Dairying)	
	or Vet. Medicine 1.....3 (4) (Anatomy)	
Elective5	Elective5	Elective5

JUNIOR ELECTIVES

German 1a.....4 (Beginners' Course)	German 1b.....4 (Beginners' Course)	German 1c.....4 (Beginners' Course)
English 3.....5 (Shakespeare's Plays)	English 4a.....5 (18th Cent. Lit.)	English 4b.....5 (18th Cent. Lit.)
Social Science 2.....4 (Prin. of Pol. Econ.)	Social Science 3.....4 (Ind. Combination)	Social Science 4.....4 (Agri. Econ.)
Public Speaking 2..... (2) (Vocal Expression)	Pub. Speaking 3.....1 (2) (Debating)	Pub. Speaking 4.....1 (2) (Public Address)

SENIOR YEAR

Course in Animal Husbandry

FALL TERM

Bacteriology 1.....	3 (4)
(Gen. Bacteriology)	
Animal Husb. 4.....	5
(Feeds and Feeding)	
Vet. Medicine 2.....	2
(Animal Parasites)	
Animal Husb. 5.....	1 (4)
(Adv. Stock Judging)	
Elective	5

WINTER TERM

Vet. Medicine 3.....	3
(Materia Medica)	
Animal Husb. 7a.....	4 (2)
(Live Stock Man.)	
Agronomy 7.....	5
(Farm Manage.)	
Animal Husb. 6.....	3 (2)
(Stables and Equip.)	
Elective	5

SPRING TERM

Vet. Medicine 4.....	2 (2)
(Infect. Diseases)	
Animal Husb. 7b.....	2 (2)
(Live Stock Man.)	
College and Experi-	
ment Sta. work.....	3 (4)
Thesis or Elective..	5
Elective	5

Course in Agronomy

Bacteriology 1.....	3 (4)
(Gen. Bacteriology)	
Animal Husb. 4.....	5
(Feeds & Feeding)	
Agronomy 11.....	2 (2)
(Farm Motors)	
Entomology 3.....	3 (2)
(Econ. Entom.)	
Elective	5

Agronomy 8a.....	4 (2)
(Soil Fertility)	
Bacteriology 2.....	2 (4)
(Agri. Bact.)	
Agronomy 7.....	5
(Farm Manage.)	
Agronomy 12.....	2 (4)
(Agri. Eng.)	
Elective	5

Agronomy 8b.....	4 (2)
(Soil Fertility)	
Agronomy 13.....	3 (2)
(Adv. Crops)	
Agronomy 6.....	2 (2)
(Crop Breeding)	
College and Experi-	
ment Sta. Work.....	3 (4)
Thesis or Elective..	5

Course in Dairying

Bacteriology 1.....	3 (4)
(Gen. Bact.)	
Animal Husb. 4.....	5
(Feeds and Feeding)	
Dairying 3.....	2 (6)
(Buttermaking)	
Elective	5

Dairying 4.....	2 (6)
(Cheese Making)	
Dairying 5.....	5
(Bus. of Dairying)	
Dairying 6.....	2
(Factory Manage.)	
Elective	5
Elective	5

Dairying 7.....	2 (2)
(Dairy Engineering)	
Dairying 8.....	2 (4)
(Sp. Dairy Prod.)	
College and Experi-	
ment Sta. Work.....	3 (4)
Thesis or Elective..	5
Elective	5

Course in Horticulture

Bacteriology 1.....	3 (4)
(Gen. Bact.)	
Animal Husb. 4.....	5
(Feeds and Feeding)	
Horticulture 6.....	2 (4)
(Pomology)	
Elective	5

Agronomy 9a.....	4 (2)
(Soil Fertility)	
Horticulture 7.....	2 (2)
(Plant Breeding)	
Horticulture 4.....	3 (4)
(Nursery Work)	
Elective	5

Horticulture 3.....	2 (2)
(Forestry)	
Horticulture 8.....	2 (2)
(Land. Gardening)	
College and Experi-	
ment Sta. Work.....	3 (4)
Thesis or Elective..	5
Elective	5

SENIOR ELECTIVES

Major Agri. Sub.....	5
Music	4
English 5.....	5
Social Science 1.....	4
(Com. Usages)	
Social Science 5.....	4
(Sociology)	
German 2a.....	4
(Adv. Read. Course)	
Botany 6.....	3 (2)
(Spec. Sys. Bot.)	
Vet. Medicine 2.....	2
(Animal Parasites)	
Pedagogy 1.....	5
(Psychology)	
Animal Husb. 9.....	2 (2)
(Breeds of Poultry)	
Entomology 6.....	2 (2)
(Econ. Entom.)	

Major Agr. Sub.....	5
Music	4
Bacteriology 2.....	2 (4)
(Agri. Bact.)	
English 6.....	5
(Romantic Move.)	
Horticulture 5.....	2
(Veg. Growing)	
Social Science.....	6
(Duties of Citi-	
zenship)	
Zoology 4.....	2 (4)
(Embryology)	
German 2b.....	4
(Adv. Read. Course)	
Botany 7-8.....	3 (2)
(Plant Cytology)	
or Gen. Mor-	
phology)	
Entomology 4.....	2 (4)
(Biolog. Entomol.)	
Pedagogy 2.....	2 (5)
(Hist. of Education)	
Animal Husb. 10.....	2 (2)
(Poultry Prod. &	
Management)	

Major Agr. Sub.....	5
Music	4
Bacteriology 5.....	2 (4)
(Tech. Bact.)	
English 7.....	5
(Carlyle & Ruskin)	
Social Science 8.....	4
(Government)	
German 2c.....	4
Entomology 5.....	5 (2)
(Scientific Ent.)	
Botany 9.....	3 (4)
(Gen. Morphol.)	
Astronomy 1.....	5
(Ele. Astronomy)	
Pedagogy 3.....	5 (5)
(Methods & Man.)	
Animal Husb. 11.....	2 (2)
(Poultry Bldgs. &	
Equip.)	

SUBJECTS

- 1 *a-b*. STOCK JUDGING.—Freshman year, fall and winter term;
two hours practicum per week.

A thorough training in score-card work is given. Special study made of animal form, as an index of excellence in beef, dairy, mutton, wool and pork production, and of efficiency in labor. Careful consideration is given to the standard market classes and grades of live stock.

- 2 *a*. BREEDS OF LIVE STOCK.—Sophomore year, winter term;
three lectures and four hours practicum per week.

The leading improved breeds of horses and cattle are studied, as to their origin, development, adaptability and breed characteristics. The practicum work consists of score-card and comparative judging of representatives of the various breeds of stock kept on the College farm and those of nearby breeders. Prerequisite, Stock Judging.

- 2 *b*. BREEDS OF LIVE STOCK.—Sophomore year, spring term;
two lectures and two hours practicum per week.

The leading improved breeds of sheep and swine are studied, as to their origin, development, adaptability and breed characteristics. The practicum work consists of score-card and comparative judging of representatives of the various breeds of stock kept on the College farm and those of nearby breeders. Prerequisite, Stock Judging.

- 3 *a*. PRINCIPLES OF BREEDING.—Junior year, winter term; three
lectures per week.

A study of facts and problems especially important to the plant and animal breeder, including the kinds and causes of variation, the transmission of character, controlling of type, laws of correlation and heredity, and prepotency.

- 3 *b*. PRACTICE OF ANIMAL BREEDING.—Junior year, spring
term; two lectures and two hours practicum per week.

The selection of breeding stock, systems of breeding, including grading, cross-breeding, line breeding and in-and-in-breeding, pedigree and herd book study with a view to becoming acquainted with methods of registration, and also with the leading strains and families of the different breeds of live stock, methods of keeping live stock breeding records, identification, etc. Prerequisite, Principles of Breeding.

4. FEEDS AND FEEDING.—Senior year, fall term; five lectures
per week.

A study of the composition of the animal body, the processes of

digestion, assimilation and elimination, and the function of the different nutrients in animal nutrition, together with the composition of feeds, the compounding of rations for different purposes and for different classes of stock, and the feeding, and management of farm live stock.

5. **ADVANCED LIVE STOCK JUDGING.**—Senior year, fall term; one lecture and four hours practicum per week.

A course for advanced animal husbandry students in comparative judging of the various market types and the improved breeds of live stock. Prerequisites, Stock Judging, and Breeds of Live Stock.

6. **STABLES AND EQUIPMENT.**—Senior year, winter term; three lectures and two hours practicum per week.

This course embraces the study of stables and equipment especially studied for the handling of the different classes of live stock, with special reference to convenience, needs of the animals, and sanitation.

- 7 a. **LIVE STOCK MANAGEMENT.**—Senior year, winter term; four lectures and two hours practicum per week.

A study of the most practical methods of producing, feeding and marketing different classes of horses, beef cattle and swine. Prerequisites, Principles of Breeding, Practice of Animal Breeding, and Feeds and Feeding.

- 7 b. **LIVE STOCK MANAGEMENT.**—Senior year, spring term; four lectures and two hours practicum per week.

A study of the most practical methods of producing, feeding and managing dairy cattle and sheep. Prerequisites, Principles and Practice of Breeding and Feeds and Feeding.

9. **BREEDS OF POULTRY.**—Senior year, fall term; two lectures and two hours practicum per week.

The leading breeds of poultry are studied as to their history, adaptability, utility and breed characteristics. The practicum work consists of practice in scoring representatives of the different breeds.

10. **POULTRY PRODUCTION AND MANAGEMENT.**—Senior year, fall term; two lectures and two hours practicum per week.

A careful study of the management of laying and breeding stock, including practical work in handling incubators, brooders, caring for poultry, etc.

11. **POULTRY BUILDINGS AND EQUIPMENT.**—Senior year, spring term; two lectures and two hours practicum per week.

The equipment necessary for the operation of a modern poultry plant is fully considered and plans for poultry houses suited to Oklahoma conditions carefully compared.

THESIS.—Senior year, spring term; five hours' credit per week.

In the regular course each student during the spring term, Senior year, may prepare a thesis on some subject of research relating to any of the problems of animal husbandry. The subject, with an outline of the project, must have the approval of the head of the department under whom the student is taking the major study, during the fall term, and the investigation be actively undertaken during the winter term.

COLLEGE AND EXPERIMENT STATION WORK.—Senior year, spring term; three lectures and four hours practicum per week.

This is a study of the various methods of conducting the different kinds of experimental work relating to animal husbandry, agronomy, dairying and horticulture. It familiarizes the student with the organization of the experimental work in this country and enables him to become informed with reference to the actual experimental work that has been conducted in these various departments of agriculture and assist the student to present the topics relating to these in the most effective manner. The students will be brought into closer touch with experimental work which is under way at the Experiment Station, and may be called upon to take charge of lower class work.

THE FARM

The College farm is a part of the regularly organized work of the Animal Husbandry Department.

The tract of land owned by the College embraces about a thousand acres. About eighty acres of this is given over to the College campus, sixteen acres to horticultural work, and one hundred and eighty acres are used by the Experiment Station for cultivated plot work, making the College farm proper consist of about seven hundred and thirty acres. This acreage embraces a variety of soil, and includes both lowland and upland. The lowlands are adapted to the growing of corn, alfalfa and other crops of a similar nature, while the uplands are suitable for pasturage. Thus the whole makes a very fit equipment for the breeding and feeding of live stock.

The purpose of the farm is to illustrate so far as possible the preparation of the land, the growing of crops, and the management thereof, according to the best agricultural practices as adapted to Oklahoma. It is intended to be helpful to the farmer

who inspects it, as well as instructive to the student who sees its daily operations. Special effort is made to bring the students in closer touch with the farm work. It has been felt that our agricultural courses should be stronger in this regard, and it is the intention to bring the student in the Agricultural Division in much closer touch with farm work than it has been possible to do in the past. In other words, it is sought to make the farm as much a department of instruction for the student as any laboratory, or other equipment of the College wholly devoted to that purpose.

Another important feature being carried on, on the farm, is the production of pure seed of the leading varieties of farm crops. This pure seed is produced for distribution to the County Demonstration Farms, and the surplus for general distribution among the farmers of the State. In this way the farm serves as a constant source of pure seed.

Department of Agronomy

O. O. CHURCHILL, *Professor*

A. C. HARTENBOWER, *Assistant Professor*

A. H. WRIGHT, *Assistant Agronomist, Experiment Station*

The course in Agronomy is designed to acquaint the student with the fundamental principles, in the production of farm crops, in the management of the soil, and in rural engineering. It offers practical training in these modern fields of science and fits men for farm management and for educational and research work. It seeks to supply the great demand for broadly educated scientists who understand soils, crops, and rural engineering. The first two years are devoted largely to the usual scientific and classical subjects of a college course, while the last two years are devoted largely to the technical subjects, whose mastery equips the student for his life work.

The instruction work in the Department of Agronomy is conducted in laboratory and lecture rooms in Morrill Hall. One thousand acres of land are available for the study of plants and soils, under normal environment. Of this area about two hundred acres are devoted to Agronomy work; and the demonstrations of soil management, crop adaptation, and cultural methods may be observed.

The soil laboratories are equipped with apparatus and supplies for carrying on studies with soil types, physical properties of soil, and soil fertility.

The crop laboratory is well supplied with the necessary material and specimens for a detailed study of the different crops.

All the latest and best types of farm machinery and farm motors have been loaned by different machinery firms to the Agronomy Department for use in class instruction.

Sufficient geological specimens are available for the work required in this subject.

1. FARM MECHANICS.—Freshman year, spring term; four lectures and two hours practicum per week.

This course embraces a study of physics as related to the construction of farm machinery; of power machinery and power transmission; and of material used in the construction of farm machinery. The ordinary farm machines are studied under the following outline: Tillage machinery; seeding machinery, harvesting machinery, haying machinery, manure spreaders, threshing machinery, corn machinery, feed mills, buggies, wagons, and pumping machinery. The final chapter is devoted to the value and care of farm machinery. The practicum consists of taking down and reassembling the machines studied in the classroom, and of an investigation of the working parts of each machine.

2. SOILS.—Sophomore year, winter term; three lectures and four hours practicum per week.

This course treats of soils in their relation to crop growth; the origin and formation of soils as affecting their fertility and durability; soil texture and soil structure as affecting soil moisture and its movements; soil temperature, aeration and the liberation of plant food; the function of humus; nitrification, denitrification and the fixation of nitrogen, as influenced by soil management. Special attention is given alkali soils, soil erosion, crop adaptation, green manuring, use of farm manures and soil deterioration.

3. GRAIN JUDGING.—Sophomore year, spring term; one lecture and two hours practicum per week.

Corn judging is one of the major features of this course; wheat, oats, Kafir corn, cotton and other staple crops are also measured by the standard known as the score card. Types and varieties studied in the classroom are given attention.

4. FARM CROPS.—Sophomore year, spring term; three lectures and two hours practicum per week.

This course includes a study of the staple field crops of Oklahoma.

The groups are classified as: Cereals, grasses, legumes, forage crops, tubers, root crops, sugar plants, fiber plants, and miscellaneous crops. The following points are considered in each of the leading crops: History, structure, classification, selection, culture, adaptation, harvesting and marketing.

5. SOIL PHYSICS.—Elective Junior year, winter term; three lectures and four hours practicum per week. Prerequisite, Agronomy 2.

This course consists mainly of a field or laboratory study, by the individual student, of special problems relating to the physical characteristics of soils and their relation to crop production. The student may study any local soil problem which exists on his home farm. Assigned readings, a study of previous investigations and written reports constitute the class work. In the laboratory the experiments begun in Agronomy 2 may be continued or some special soil problems may be investigated.

6. ADVANCED CROP BREEDING.—Senior year, spring term; two lectures and two hours practicum per week.

In this course a study is made of the principles of plant breeding and their application to the improvement of farm crops. Emphasis is given to the methods now in use by the leading plant breeders, their methods of keeping records, and the manipulation of hybridization.

7. FARM MANAGEMENT.—Senior year, winter term; five lecture per week.

This course consists of a study of the administration of the farm. Forms of land tenure; the farm unit adapted to the different kinds of farming; the selection of the farm; planning the farm; types of buildings, and cropping system; farm equipment; stocking the farm; labor problems; marketing problems; farm records and farm accounts are the principal topics studied. The object of the course is to study the definite application and correlation of the principles learned in the preceding courses to actual farm practices.

- 8a and 8b. SOIL FERTILITY.—Senior year, winter and spring terms; four lectures and two hours practicum per week.

This course is intended to cover, in its broadest scope, the problems of soil fertility. This Station has now in progress extensive experiments which are intended to help solve the many fertility problems of Oklahoma. These, and the leading investigations being made in other parts of the United States, and those of the Rothampsted Station, will be studied in detail. The practicums will consist of pot culture experiments with the typical soil types of the State.

9. ELEMENTARY AGRICULTURE.—Required Sophomore year, fall term, for all Normal students; three lectures per week.

This course is intended to prepare students taking the Normal course, for teaching the elementary principles of agriculture. The study covers in a brief way the main divisions of agriculture: Horticulture, forestry, animal husbandry, dairying and agronomy.

10. GEOLOGY.—Required of all Agricultural students, Freshman year, winter term, and elective for Sophomores in Science and Literature, and Normal courses. Five lectures per week.

This course deals primarily with structural geology. Physiography will be briefly reviewed, and historical and economic geology will be given as much consideration as time will permit. The economic deposits of the State will be given special consideration.

11. FARM MOTORS.—Senior year, fall term; two lectures and two hours practicum per week.

This course considers the economy of animals as motors; sweep powers, tread powers, windmills, steam boilers, traction engines; and the principles of operation, styles, parts, and uses of each. The major part of the course consists of a study of gas engines. Emphasis is given gas engine troubles and how to overcome them.

12. AGRICULTURAL ENGINEERING.—Senior year, winter term; two lectures and four hours practicum per week.

This course is designed to consider in a brief and concise manner the running of levels, tile and surface drainage, laying and leveling tile, furrow flooding and subirrigation, the adaptability of irrigation for different crops, the construction and maintenance of country roads, water supply, sanitation, and the construction of farm buildings. The practicums will consist of practical surveying, and of making building plans and specifications.

13. ADVANCED FARM CROPS.—Senior year, spring term; three lectures and two hours practicum per week.

A course designed to give the student a broader knowledge of the field crops of the United States than that given in the Sophomore year. This course will consist of lectures, assigned readings and research work in field crops.

THESIS.—Elective, Senior year, spring term.

The student may prepare a thesis during the spring term, Senior year, on any subject of research included in the Agronomy Department, after first having secured the approval of the head of the department. The student is advised not to write a thesis unless he is prepared to outline and begin the work at the beginning of the Senior year.

Department of Dairy Husbandry

ROY C. POTTS, *Professor*....., *Assistant*

A separate two-story brick building (60x30) with new additions provided for and described elsewhere, is devoted exclusively to the work of this department. The laboratories for student instruction are equipped with all modern machinery for studying the latest and most scientific methods of manufacturing dairy products. A commercial demonstration creamery is operated by the department which furnishes an opportunity to students for investigation and practical work.

The aim of the instruction offered in this department is to fit young men for positions as operators, superintendents, and managers of creameries and ice cream plants, also for positions in governmental and experimental dairy work, and managers of dairy farms. The scope of the instruction given in the regular courses is outlined under the heading of Subjects, which follow. The Special Short Courses in Dairying are described on pages 51-52.

SUBJECTS

- I. ELEMENTARY DAIRYING.—Sophomore year, fall term; two lectures and four hours practicum per week.

Required of all agricultural students of the College. A study of dairy farm management and the principles which apply to the production and handling of dairy products in a wholesome and economical manner on the farm, the composition of milk and cream and the conditions which affect and bring about changes in them. In the laboratory is given practical work in milk and cream testing, separating milk, ripening cream, churning, and preparing butter and milk for the market.

2. ADVANCED DAIRYING.—Junior year, winter term; three lectures and four hours practicum per week.

An elective for Junior students intending to specialize in dairying during the Senior year. This course consists of a series of lectures with supplemental reference and laboratory work. It includes a history of dairying in this and foreign countries; a retrospect of the dairy and creamery systems employed in the United States since 1850; a study of factory equipments, dairy machinery, dairy legislation and literature, also the composition of dairy products. The laboratory work consists of exercises in testing milk and cream, moisture tests of butter, detecting preservatives and adulterants, standardizing of milk and cream, and the analysis of butter and commercial dairy products.

3. BUTTERMILK.—Senior year, fall term; two lectures and six hours practicum per week.

A study of the principles and practice of buttermaking, including pasteurizing, starters, cream ripening, churning, salting, working, packing, judging, and marketing of butter, also equipment and operation of factories.

4. CHEESE MAKING.—Senior year, winter term; two lectures and four hours practicum per week.

A study of the care and handling of milk for cheese making, the action of pepsin, rennet, and heat on milk; the manufacture of cottage, hybrid and cheddar cheeses, with brief description of the making of other kinds, the ripening of cheese, cheese judging, and the equipment of cheese factories.

5. BUSINESS OF DAIRYING.—Senior year, winter term; four lectures and two hours practicum per week.

A study of the management of dairy farms and factors influencing the economical production of dairy products.

6. FACTORY MANAGEMENT.—Senior year, winter term; two lectures per week.

This course embraces lectures on the operation of creameries, cheese factories, ice cream and dairy plants. Special reference is made to the arrangement of machinery with a view to economizing time and labor. Various systems of simplified bookkeeping and accounting are studied, also of marketing butter both locally and in car lots. Plans for buildings and material for construction of the same are also studied in this course and thorough training in creamery bookkeeping is given.

7. DAIRY ENGINEERING.—Senior year, spring term; two lectures and two hours practicum per week.

This course is intended to familiarize the student with all kinds of dairy machinery, as pasteurizers, churns, boilers, engines and refrigerating machinery. Their construction and principles of operation are studied in particular. Where the student has not had previous experience in the operation of traction or stationary engines, field work is given on Monday to familiarize the student with the principles of firing steam boilers and operation of steam engines.

8. SPECIAL DAIRY PRODUCTS.—Senior year, spring term; two lectures and four hours practicum per week.

This course, as indicated, embraces a study of and practice work in the manufacture and sale of special dairy products. Those in particular which are studied are the butter substitutes, modified milk, market milk, and ice cream. The laboratory work supplements the lectures and gives the student a limited amount of

experience in the preparation of such of the products as are selected for study. Extra laboratory work may be taken by the student when arranged.

Department of Horticulture and Botany

N. O. BOOTH, *Professor*

D. C. MOORING, *Assistant*

This department occupies rooms in Morrill Hall with abundant class and laboratory room and a full equipment for laboratory and photographic work. It is equipped with a complete line of garden seeders; tools for lawn work; spray pumps; a large collection of models of common varieties of apples, peaches, plums, pears, cherries and such fruits; charts showing the disease of fruits and garden plants; and a herbarium of cultivated plants showing most of the plants cultivated in the United States. In the way of practical operations, this department is well situated, having at its command the orchards of the Experiment Station and greenhouse facilities. The horticultural grounds include twenty acres with a complete collection of trees and vines. For instruction in forestry, a plantation of 40,000 trees is available both for observation and for practical work in propagation, pruning, and transplanting.

The equipment of the botanical laboratory includes 24 compound microscopes of recent manufacture (5 of Zeiss and 19 of Bausch and Lomb), 4 camera lucides, a horizontal compound microscope, 22 dissecting microscopes and a number of hand lenses; hand microscopes, a rotary and a sliding microtome; several hundred microscopic slide preparations of lower plants, plant anatomy and plant pathology specimens for special study; a full line of glassware, chemicals, reagents, and stains; special apparatus for plant physiology and pathology, including ovens, clinostat, sterilizers, etc. The large herbarium includes authentic collections of algae fungi, lichens, liverworts, mosses, ferns, and seed plants, and a complete set of Halsted's American weeds, one set of Kny botanical charts, a collection of woods, seeds and other preserved material for class use. Aside from this living material is drawn, as much as possible, from the greenhouses and College grounds,

SUBJECTS

HORTICULTURE

1. ORCHARD FRUITS.—Sophomore year, winter term; three lectures and two hours practicum per week.

This is a study of the orchard fruits grown in Oklahoma and the best methods of cultivating and marketing them.

2. GARDEN VEGETABLES AND SMALL FRUITS.—Sophomore year, spring term; four lectures per week.

The general and specific characters of vegetables and small fruit plants are studied as a basis of the study of the methods of growing and marketing the crop.

3. FORESTRY.—Senior year, spring term; two lectures and two hours practicum per week.

This is a study of the best trees for planting in Oklahoma for the purpose of growing fuel, fence posts, and windbreaks, and the best methods of planting and cultivating tree plantations.

4. NURSERY WORK.—Senior year, winter term; three lectures and four hours practicum per week.

This is a study of the methods of propagating plants and methods of nursery management.

5. BUSINESS OF FRUIT AND VEGETABLE GROWING.—Senior year, winter term; two lectures per week.

This is a study of the market requirements in the line of fruits and vegetables and of the best methods of meeting these requirements. This course is based upon the practice and experience of the most successful fruit growers and truck gardeners.

6. POMOLOGY.—Senior year, fall term; two lectures and four hours practicum per week.

This is a systematic study of the varieties of orchard fruits. Material for class use is purchased and kept in cold storage until the class is ready to use it.

7. PLANT BREEDING.—Senior year, winter term; three lectures per week.

Study and practice of plant breeding and plant selection as it applies to horticultural plants is taught with a view of giving the student a knowledge of the best methods of plant improvement.

8. LANDSCAPE GARDENING.—Senior year, spring term; two lectures and two hours practicum per week.

The fundamental principles of landscape gardening are taught and practice is given in making the plans for home gardens.

9. GARDENING.—Junior year, spring term. Domestic Science and Arts Course. Five lectures per week.

This is a course in vegetable and landscape gardening combined. The aim is primarily to give instruction in the care of the home grounds.

BOTANY

- 1a. ELEMENTARY BOTANY.—Freshman year, spring term; three lectures and four hours practicum per week.

A study of plant forms, mainly of the higher plants, together with the more important plant activities. Living material is used as much as possible in order that the student may gain first hand information for himself.

- 1b. A continuation of Botany 1. Sophomore year, fall term; two lectures and four hours practicum per week.

2. PLANT HISTOLOGY AND PHYSIOLOGY.—Junior year, fall term; three lectures and four hours practicum per week.

The first part of the term is given over to laboratory work and lectures on plant histology. All the tissues of the plant are studied, including the stem structures of ferns and seed plants. The last part of the term is devoted to laboratory experimental work in plant physiology, followed by recitations and lectures. Here are included all of the chief functions of plants and the conditions affecting them, such as the influence of temperature, moisture, light, and gravitation upon growth, movement, food manufacture, and respiration. Prerequisites, Botany 1, Physics 1, Chemistry 1 a-b-c.

3. PLANT PHYSIOLOGY.—Junior year, winter term; two lectures and four hours practicum per week.

This is a continuation of Botany 2. Prerequisites, the same as for Botany 2, plus Botany 2.

4. PLANT PATHOLOGY.—Junior year, spring term; two lectures and four hours practicum per week.

The fungus diseases afflicting the agricultural, horticultural, and forestal plants are studied structurally. In this connection the best methods of controlling the more common diseases are considered. Prerequisites, Botany 1 and 2.

5. SYSTEMATIC BOTANY.—Junior year, spring term; one lecture and six hours practicum per week.

A study of the local plant families most important to agriculture,

and the identification of species belonging to these families. Prerequisite, Botany I.

6. SPECIAL SYSTEMATIC BOTANY.—Senior year, fall term; three lectures and four hours practicum per week.

The identification and classification of plants native to Oklahoma. Special emphasis is paid to seed plants and their classification in relation to cultivated plants. Prerequisites, Botany I, 2, and 5.

7. PLANT CYTOLOGY (CELLULAR BOTANY).—Senior year, winter term; three lectures and four hours practicum per week.

This course has primarily to do with the study of the plant cell, cell division, and the phenomenon of fertilization. The student is familiarized with the methods of slide preparation from living material. Prerequisites, Botany I, 2, 5, 8 and 9.

8. GENERAL MORPHOLOGY OF THE LOWER PLANTS.—Junior or Senior year, winter term; two lectures and six hours practicum per week.

This is a general study of the seedless plants except the ferns. Representatives of the algae, fungi, liverworts, and mosses are studied as an introduction to the evolution of vascular plants (Botany 9). Special emphasis is put on the system of fungi as a foundation for plant pathological investigation. Prerequisites, Botany I, and 2.

9. GENERAL MORPHOLOGY OF THE VASCULAR PLANTS.—Junior or Senior year, spring term; three lectures and four hours practicum per week.

This is a continuance of the preceding term's work. Emphasis is placed on the evolution of plants as shown by a study of the reproductive organs and stem anatomy. Ferns and seed plants are the plants studied. Prerequisites, Botany I, 2, and 8.

10. MOLDS AND MILDEWS.—Junior year, fall term; three lectures and four hours practicum per week.

A course designed especially for domestic science students. It includes all the more common molds that occur in the household. The effects of these molds on food material, and methods of prevention are studied experimentally by the student. Prerequisite, Botany I.

Department of Short Courses

..... Principal

The Short Courses offer young men and young women who feel they cannot take time or afford the expense of taking the

regular course a brief training in the more immediately practical subjects during that part of the year when they can most conveniently leave home.

The Short Courses are not considered substitutes for the regular course, but are planned to meet a demand and condition. It is hoped that many will continue their studies in the regular College Agricultural Course.

The Short Courses will be found very helpful in the everyday practices of the farm or home.

I. THE TWO YEARS' COURSE

This course is arranged with the purpose of giving the most practical instruction in agriculture in the shortest possible time. It is arranged to furnish training of special value to those boys and girls, young men and young women who intend to stay on the farm. It has been planned to include a season when the farm work will permit of absence for instruction in farm topics. Applicants must be at least fifteen years of age, and fairly well advanced in the common branches. To meet the conditions of many young men and young women in the country the course is arranged to begin about October 15, when the fall work on the farm ceases to be pressing, and to close about March 15, when the services of the students are again likely to be needed at home. For the fall season of 1911 this Short Course opens October 10. The Short Course provides thorough instruction in writing, arithmetic, English language, public speaking, music and physiology, as well as the practical subjects such as engines and boilers, carpentry, farm machinery, soils, stock judging, blacksmithing, cooking, drawing, and sewing for girls.

Outline of Subjects in the Two Years' Course, Giving Subjects and Hours

YOUNG MEN—FIRST YEAR

Arithmetic	5	Arithmetic	5
English and Spelling	5	English and Spelling	5
Plants and Plant Culture	4 (4)	Physiology	4
Farm Machinery	2 (2)	Farm Accounts	2
Music, or Reading and		Music, or Reading and	
Public Speaking	(2)	Public Speaking	2 (2)
Traction Engines and Boilers	(2)	Soils	2 (2)
Carpentry	(4)	Blacksmithing	(4)

YOUNG MEN—SECOND YEAR

Farm Dairying	2 (2)	Farm Management	3
Insect Enemies	2 (2)	Animal Feeding and Mgt.	5
Bee Keeping	1 (2)	Veterinary Medicine	2 (4)
Farm Crops	4 (2)	Civil Government	3
Live Stock	3 (4)	Music or Public Speaking	(2)
Music or Public Speaking	(2)	Poultry	2 (2)
Commercial Law	4	Fruit Growing	2 (4)

YOUNG WOMEN—FIRST YEAR

Arithmetic	5	Arithmetic	5
Plants and Plant Culture.....	4 (4)	English and Spelling.....	5
English and Spelling.....	5	Physiology	4
Music, or Reading and		Music, or Reading and	
Public Speaking.....	(2)	Public Speaking.....	2 (2)
Sewing	(4)	Sewing	(4)
Home Hygiene.....	(2)	Drawing	(2)
Cooking	1 (4)	Cooking	1 (4)

YOUNG WOMEN—SECOND YEAR

Insect Enemies	2 (2)	Cooking	1 (4)
Farm Dairying.....	2 (2)	Sanitation	2
Bee Keeping.....	1 (2)	Civil Government.....	3
Music or Public Speaking.....	(2)	Music or Public Speaking.....	(2)
Cooking	1 (4)	Sewing and Dressmaking.....	(4)
Sewing and Dressmaking.....	(4)	Poultry	2 (2)
Commercial Law.....	4	Fruit Growing.....	2 (4)
		Farm Management.....	3
		Designing	(2)

ARITHMETIC.—First year, fall and winter terms; five hours per week.

A thorough study is made of common and decimal fractions, denominate numbers, percentage, interest, analysis, and practical farm problems.

ENGLISH AND SPELLING.—First year, fall and winter terms; five hours per week.

A practical course in English and composition, with a part of the time devoted to instruction in spelling.

BOTANY.—First year, fall term; two lectures and one practicum per week.

A brief study of plant organs and the methods by which plants make their food, and the effect of external conditions, such as heat, light and moisture.

HORTICULTURE.—First year, fall term; two lectures and one practicum per week.

Instruction is given in the practical work of fruit growing in Oklahoma.

FARM MACHINERY.—First year, fall term; two lectures and one practicum per week.

Practical instruction is given in setting up and making a detailed investigation of the working parts of tillage implements, harvesting machines, gasoline engines, and other farm machines.

CARPENTRY.—First year, fall term; two practicums per week.

Bench work in wood; sawing, planing and joining; centering and chuckturning in wood; instruction in care and use of tools.

ENGINES AND BOILERS.—First year, fall term; two practicums per week.

A study of the working parts of steam engines, together with practical instruction in firing and operating traction engines.

PUBLIC SPEAKING.—First and second years, fall and winter terms; two lectures per week.

The course in public speaking is designed to stimulate in the student a desire to express himself, to give him the free use of his instruments of expression,—his mind, his voice and body,—to the end that he may be able to speak with ease and power in public.

COOKING.—First year, fall and winter terms; one lecture and two practicums per week.

Simple dishes are prepared from materials such as those generally used in the average household. A study of foods is made from the viewpoint of cost, nutritive value and digestibility as affected by the various methods of cooking.

HYGIENE.—First year, fall and winter terms; one lecture per week.

This is given in a very practical way, the endeavor being to make it comprehensible even to those who have not studied physiology.

SEWING.—First year, fall and winter terms; two practicums per week.

Instruction is given in sewing models which are practical lessons in the various stitches, i. e., basting, running stitches, back stitches, etc., fell seams, hemming, patches, gathering, button-holes, darning, and many others; and the practical application of these methods to plain undergarments to be made in class.

MUSIC.—First and second years, fall and winter terms; two lectures and two practicums per week.

Students are given opportunity to obtain instruction in theory of music, voice, piano, string and wind instruments.

PHYSIOLOGY.—First year, winter term; four lectures per week.

An elementary course in physiology and hygiene, which is intended to familiarize the student with the general function, structure, and care of the body.

FARM ACCOUNTS.—First year, winter term; two lectures per week.

A practical course in farm bookkeeping.

SOILS.—First year, winter term; two lectures and one practicum per week.

A study of the origin and physical properties of soils, of organic matter and the importance; of soil erosion, and methods of preventing same; of alkali soil, and their management of drainage; and of proper soil tillage.

BLACKSMITHING.—First year, winter term; two practicums per week.

Iron and steel forging, drawing, upsetting, welding, and tempering.

DRAWING.—First year, winter term; one practicum per week.

The purpose of this course is to cultivate a taste for simple and refined surroundings, of well chosen, inexpensive articles for dress and home; to develop good judgment of form, proportion, and a feeling for harmonious colors and combinations. Hence the work is planned to give opportunity for free personal choice by comparison, selection, arrangement and invention. The term is devoted to a study of line, arrangement, theory of color and its relations to home art.

DAIRYING.—Second year, fall term; two lectures and one practicum per week.

A course of lectures on the operation of a dairy farm, management of a dairy herd, and producing and marketing dairy products. The laboratory work consists of a study of and the operation of cream separators, the Babcock testing of milk and cream, ripening of cream, churning, and making butter.

ENTOMOLOGY.—Second year, fall term; two lectures and one practicum per week.

The course consists of a preliminary survey of the entomological field, and is formulated with the intention of giving in lecture form to the student the most local economic insects subjects possible. The practice will consist of the demonstration of appliances and methods of controlling the insect, treated by lecture.

LIVE STOCK.—Second year, fall term; three lectures and two practicums per week.

A study of the market types and breeds of farm animals, together with practical work in stock judging.

FARM CROPS.—Second year, fall term; four lectures and one practicum per week.

A study of the staple field crops of Oklahoma, including the history and classification of varieties, improvements of varieties through selection and breeding, adaptation to special soil and climatic conditions, cultural methods, harvesting, preserving, and marketing.

COOKING.—Second year, fall and winter terms; one lecture and two practicums per week.

In this year the students are able to take up advanced work in cooking. Some practice is given in table service. Food production and manufacture are studied.

SANITATION.—Second year, fall and winter terms; one lecture per week.

This subject deals with the general care of the house, cleaning and cleansing agents, ventilation, heating, lighting, disposal of waste, etc.

SEWING.—Second year, fall and winter terms; two practicums per week.

Students will receive instructions in simple methods of drafting, cutting and fitting, and will make under the instructor's direction either a suit of undergarments, a shirt waist suit, or a plain house dress.

POULTRY.—Second year, winter term; two lectures and one practicum per week.

This course includes a study of the more popular varieties of poultry, modern methods of production, management and housing of poultry.

FARM MANAGEMENT.—Second year, winter term; four lectures per week.

Course of lectures on the different methods of farm management, including grain farming, improved seed production, etc.

ANIMAL FEEDING AND MANAGEMENT.—Second year, winter term; five lectures per week.

A study of the processes of digestion and nutrition, classification of feeding stuffs, compiling of rations, and the special methods of feeding and management of the different classes of farm animals.

VETERINARY MEDICINE.—Second year, winter term; two lectures per week.

This course is sometimes known as Common Diseases and Treatment. The work is largely given by lectures, although considerable reading along veterinary lines is required. The course is of an elementary but practical nature. The value of proper care as a means of preventing disease is especially emphasized in this work.

CIVICS.—Second year, winter term; three lectures per week.

The aim of this course is to present the elementary facts about

the forms of organization, and both the theoretical and actual methods of operation of our local, state, and national governments; to understand the fundamental requirements of good citizenship today, and the most intelligent and efficient means of meeting those requirements in the interests of true democracy.

DESIGNING.—Second year, winter term; one practicum per week.

This course is advanced work to follow as a complement of the first year course in drawing, and is devoted to the study of harmonious color combinations and elementary designing for applied art.

2. THE SHORT COURSE FOR FARMERS

The Short Course for Farmers, lasting for one week, will be given at some time during the month of January. The dates and program will be announced later. For each of the last three years more than four hundred farmers of Oklahoma have attended this course.

3. FOUR WEEKS' COURSE IN CREAMERY BUTTERMaking AND CREAMERY MANAGEMENT

A special course in creamery buttermaking and creamery management is offered during the month of January of each year and continues four weeks. For the year 1912 this course will open on January 2d (the first Tuesday in January.) This course is designed for managers of creameries, buttermakers and persons who have had some experience in creamery work. Others of less experience who intend to take up creamery work may obtain a great deal of information from this course. The following schedule explains the course fully and the work offered:

8:00 A. M.—Textbook lessons on buttermaking.

9:00 A. M.—First two weeks: Lectures on feeds, feeding, breeding, care and diseases of dairy cattle.

Second two weeks: Lectures on engines, boilers, and creamery machinery.

10:00 A. M.—Creamery bookkeeping and creamery accounting.

1 to 5 P. M.—Practical work in churning, testing, pasteurizing and use of the starter.

A fee of \$5.00 is required of students matriculating in this course.

4. TWO WEEKS' COURSE IN ICE CREAM MAKING

This course of two weeks, beginning January 2, 1912, is a general course in the making of ice cream, sherbets, water and fruit ices. General lectures are given on the composition of milk, receiving, sampling and testing of milk and cream, and special lectures are given on the making, packing, and marketing of ice cream factory products. Laboratory practice is also given in the forenoon in milk and cream testing, and the afternoon is devoted to practical work in ice cream making. This course is extremely practical for the commercial ice cream maker. A fee of \$5.00 is required of students matriculating in this course.

5. SPECIAL ONE WEEK'S COURSE IN MILK AND CREAM TESTING

Three special one-week courses in milk and cream testing are offered by the department in cooperation with the State Dairy Commission, the State Dairy Inspector assisting with the work. These courses are very practical, being designed for agents at cream receiving stations and persons desiring to test milk or cream in a cream station or factory. Two lectures are given daily on the method of sampling, testing and handling of milk and cream. Four hours are spent each day in the testing laboratory where actual experience and practice in the Babcock testing of milk and cream is obtained. Students may enter at the beginning of any of these one-week courses in milk and cream testing and for the year 1912 they will be offered during the weeks of January 2d, January 8th and March 14th. A fee of \$3.00 will be required of students matriculating in any of the one-week courses in milk and cream testing.

6. INDUSTRIAL BUTTERMILKERS' COURSE

Besides the courses previously outlined, an industrial or training course for buttermilk makers is offered by the department. This course is maintained throughout the entire year and is offered in conjunction with the Four Weeks' Course in Creamery Buttermaking and Creamery Management. The instruction offered in this course includes ice cream making, dairy engineering, milk and cream testing, pasteurizing, starters, buttermaking, dairy farming and creamery management. Previous experience in creamery work is not required of applicants for this course, and only a limited number of students (probably 10 or 12) will be enrolled, as this number is all that the present buttermaking laboratory will accommodate. Students taking this course will be under the supervision of an expert buttermilk maker and they will be directed by him while doing their work. This course is an intensely practical one, and persons desiring to fit themselves for positions as buttermilk makers, superintendents or managers of creameries and ice cream plants would do well to investigate this course. No tuition is required, and as soon as students become thoroughly trained in the work they will be recommended to positions.

7. COTTON GRADING COURSE

The purpose of this course is to supply the instruction demanded by growers, ginnermen, merchants, and others who are particularly anxious to secure a better knowledge of cotton grades and valuations. One of the chief aims of the course is to make prominent the fact that careless methods of planting, seed selection, gathering, ginning, and marketing must be changed, so that Oklahoma may compete with other cotton-growing regions in the economical production of a superior quality of cotton. It is recognized that there are possibilities for improvement at each stage of handling, from the preparation of the ground until the crop is sold and delivered to the consumer. The instructors who have given these subjects expert study will readily give the student the benefit of their experience, so that any one taking the course may

easily become better equipped to make his business more profitable and at the same time benefit the community materially. The general plan of the course is to confine the first part of the instruction to the producers, covering in a general way the topics of growing and marketing, while the second portion will chiefly be devoted to the ginner and dealers, covering in a broad way the subjects of ginning and shipping. The lectures on these lines will occupy the forenoon (from 9 to 12) of each day during the whole course, and in the afternoon of each day (from 2 to 4) cotton grading will occupy the attention of the classes. This will include instruction in the use of the score card, with the description of the various classes of cotton and their valuation. The exact schedule of the course is issued as a special pamphlet giving full details of all features of this work.

DEPARTMENT OF AGRICULTURE FOR SCHOOLS

T. M. JEFFORDS, *Professor*

S. A. MINEAR, *Assistant*

The teaching of practical and industrial subjects in the Common Schools has been gradually growing in popular favor for a number of years, and now it is no longer regarded as an experiment. Recognizing the great importance of such work Oklahoma stepped into the front ranks of education at statehood when it inserted the following clause in its State Constitution:

"The Legislature shall provide for the teaching of agriculture, horticulture, stock feeding and domestic science in the common schools of the State."

In vitalizing this provision of the Constitution, the Legislature provided that—

"The elementary principles of agriculture, horticulture, animal husbandry, stock feeding, forestry, building country roads, and domestic science, including the elements of economics, shall be embraced in the branches taught in all of the public schools and the Agricultural and Mechanical College shall be the technical head of the Agricultural, Industrial, and Allied Science system of education in Oklahoma."

In order to carry out properly and systematically this statute the Legislature further provided that—

"There is hereby created the Chair of Agriculture for Schools, who shall be a member of the Faculty of the Agricultural and Mechanical College, whose duty it shall be to direct and advise in all matters relating to the teaching of Agriculture and Allied subjects in the common schools, under the supervision of the President of the Agricultural College."

The foregoing quotations from the Constitution and the statutes of Oklahoma make clear the purpose of this department and the reason for its establishment. Its field is broad, and under the operation of the law it becomes a clearing house of ideas for

teaching agriculture and allied subjects. The problems of the public schools, and particularly of the rural schools, are studied at first hand. The department is in constant communication with County Superintendents of Public Instruction, Superintendents of city schools, teachers, members of school boards, and farmers, and ideas on agriculture in the public schools are continually exchanged. Scores of teachers' and farmers' meetings are arranged at which lectures are given by representatives from various departments of the College.

Bulletins, leaflets, circulars and newspaper articles are prepared especially for teachers, and their purpose is to tell not only the essential facts, but also how the teacher without technical knowledge of the subjects may present it to the pupils.

The department is supplied with a combined opaque and transparent projector lantern and a large number and variety of views. It is thus well equipped to give illustrated lectures. The list of such illustrated lectures are as follows:

1. Consolidated Schools,
2. Beautifying Home and School Grounds.
3. Seeds and Seed Selection,
4. Travels in Oklahoma,
5. Insects Injurious to Oklahoma Crops.

Calls for lectures can usually be supplied on short notice, and no charge is made for this service. Superintendents and teachers are urged to avail themselves of the advantages offered them by this department in furnishing information for the advancement of practical and industrial education which will result in the general betterment of our public schools.

OKLAHOMA BOYS' AND GIRLS' JUNIOR AGRICULTURAL CLUBS

JOHN W. WILKINSON, *Supervisor*
IRMA E. MATHEWS, *Assistant*

The Oklahoma Boys' and Girls' Agricultural Clubs have been organized by authority of the Oklahoma State Board of Agriculture, and are conducted by the Oklahoma Agricultural and Mechanical College. Since its first inception the work has gradually grown in favor, and now its influence is felt all over the State.

Our State officers as well as prominent business men and leading educators indorse and advocate the organization of Boys' and Girls' Agricultural Clubs. Governor Cruce, in a communication to President J. H. Connell, says

"The Agricultural Club movement is one that should receive the hearty support of every citizen of the State who is interested in its growth and development. The boys and girls engaged in this endeavor are to be congratulated upon the true Oklahoma spirit they are displaying. They are doing a work that will yield its returns to them in dollars and cents when they have grown to manhood and womanhood, but will yield to them a still richer return, in the consciousness of having performed a work of worth for the State.

"I want most heartily to endorse the movement inaugurated in this State. If there is anything I can do to aid you in your endeavor along this line, don't fail to command me."

State Superintendent of Public Instruction R. H. Wilson, in a letter to County Superintendents states:

"I wish to invite and urge all County Superintendents to cooperate with the management of the Oklahoma Agricultural and Mechanical College, and recommend that you take an active interest in presenting this matter to the teachers of your county and urge upon them that they take an active part in organizing the Boys' and Girls' Clubs in their schools."

The purpose of the Oklahoma Junior Agricultural Clubs briefly stated are as follows:

1. To acquaint the boys and girls of Oklahoma with the State system of agricultural and industrial education, extending from the common schools through the District Agricultural Schools to the A. & M. College.
2. To vitalize the studies for children in the common schools.
3. To develop in due course a system of education in common schools suited to the children of the common people.
4. To lead men and boys to study farm problems on their own farms.
5. To lead women and girls to study home and family problems in their own homes.
6. To awaken our people to the importance, the advantages and the possibilities of farm life.
7. To inculcate a class sentiment and a sense of independence in the minds of farm-reared children.
8. To organize in the rising generation the farm community as an independent social unit.

Membership

There are two classes of members in the Oklahoma Boys' and Girls Junior Agricultural Clubs.

1. Individual members.
2. Junior Locals (chartered).

Boys and girls not under 9 nor over 18 years of age may become

members and receive membership cards, secure seeds and literature, and be entitled to premiums offered. Such are single or "individual" members. Thus any boy or girls of proper age may join the club. When five or more boys and girls desire to organize a local club, a "Junior Club Charter" is issued to them—they adopt constitution and by-laws for their guidance, plan to hold interesting weekly meetings, and secure benefits not obtainable by individual members. There are no membership fees.

Corn and Cotton. Selected seed corn, as well as cotton seed, has been sent out by the College this spring to boys in every county in the State. This seed has great value and will benefit many. From the crops grown the boys may win prizes at their County Farmers' Institute meetings, the State Fair at Oklahoma City, the Short Courses held at each of the District Agricultural Schools, and at the Farmers' Short Course held at the A. & M. College in January. Valuable literature is also being sent to these members. The seed is intended especially for boys, though girls have not been barred.

Flower and Vegetable Seeds. To encourage the growing of flowers and vegetables about the homes by girls and boys, flower and vegetable seeds have been sent to club members and instructions supplied for their planting and care. Literature on bread making, churning, sewing, and other subjects printed by the Agricultural and Mechanical College is constantly in preparation, and is being sent girl members.

Reports. To do things intelligently involves record making and reporting. Thus, "We learn to do by doing." All members of the chartered clubs will be supplied with blanks on which to make out their reports of the success or failure of crops. These final or annual reports must reach the College not later than October 1, 1911. Preliminary reports on planting should be filed with the A. & M. College early in the spring.

Parents and teachers are requested to call attention to the plans of the clubs and to interest young people in their practical work.

Plan of the Work

The clubs are to supplement the work of the farm, the home and the school, and to bring them into closer relationship.

The work in each county is managed by the Advisory Committee, consisting of the County Superintendent of Schools, the Secretary of the Farmers' Institute, and the Secretary of the Woman's Auxiliary to the Farmers' Institute. A club should be organized in every district school of each county.

A charter will be issued to five or more members who make application on the regular blanks furnished by the College. Regular meetings should be held every Friday afternoon. Any boy or girl not under 9 nor over 18 years may become a member. Any one may organize a club, but the teacher can perhaps do this best, and while the school is in session. The teacher should be the supervisor of the club work. In the absence of the teacher during the vacation season some good, practical farmer or reliable person should be selected by the teacher to act as supervisor.

Privileges

Members of the Junior Agricultural Clubs organized under a charter from the A. & M. College will be entitled to the following privileges for 1911:

A year's subscription to "The New Education", published by the A. & M. College.

2. To receive upon proper application through the teacher any free seed that may be offered. Each pupil availing himself of this offer is required to keep faithful record of all work done under the supervision of his teacher, and to make reports to the A. & M. College as often as may be requested.

3. To enter prize contests for the valuable premiums awarded members of these clubs in every county through FARMERS' INSTITUTES, as provided by law; by the State Board of Agriculture, the District Agricultural Schools, the State A. & M. College, and other cooperative agencies.

4. To receive literature prepared especially for the members of the clubs by the professors of the A. & M. College.

CONTESTS

All members of the club for 1911 are required to enter one of the following contests and exhibit the best reports and products in competition for the prizes offered:

- | | |
|------------|----------------|
| 1. CORN. | 4. FLOWERS. |
| 2. BREAD. | 5. VEGETABLES. |
| 3. COTTON. | 6. SEWING. |

Prizes

1. Every County Farmers' Institute in Oklahoma is AUTHORIZED BY LAW to offer cash prizes for the work of the boys and girls. Sections 2 and 5 of House Bill 277 of the Session Laws of 1909, provide that the County Farmers' Institute can draw as much as \$200 from the County Treasurer to be used as prizes for this and similar purposes.

2. The State Board of Agriculture offers 76 boys and 76 girls free trips to the District Agricultural Schools, located in different parts of Oklahoma.

3. The A. & M. College offers to provide free trips to 16 boys and 16 girls who desire to spend a week at the College during the Farmers' Short Course.

4. Two grand prizes are offered the boy and girl winning at Stillwater. These are a year's scholarship at any District Agricultural School in the State. The value of each is at least \$90, and includes board for nine months, books and fees.

5. Every school district can secure interesting and valuable prizes offered by school patrons, newspapers, merchants, banks and others.

6. Senator T. P. Gore offers a free trip to Washington, D. C., to the boy growing the largest and best yield of corn on an acre.

7. The State Fair at Oklahoma City is offering SEVEN HUNDRED DOLLARS IN CASH for the best corn grown by the boys and girls of Oklahoma.

The A. & M. College is anxious to cooperate with every teacher, school official, and farmer of the State in organizing boys' and girls' clubs, and arousing interest in agricultural and industrial education. A more detailed statement concerning the contests arranged by the A. & M. College, and a full list of the prizes to be awarded will be sent upon application.

The Agricultural Experiment Station

The work of the Agricultural Experiment Station is conducting of experiments to solve the various problems arising in connection with farming in the State of Oklahoma. The endeavor is to formulate tests and experiments which are of importance to the Oklahoma farmer, and yet such as he cannot spare the time or expense to solve himself. This means extensive experimental work in feeding the various classes of live stock with the several crops peculiar to the State. It also includes extensive investigations to find out what crops may be profitably grown, with also elaborate tests of the different varieties. This feature of the work extends, in addition, to the orchard and a vegetable garden. It is also a very important part of our work to investigate the diseases of animals as well as those observable in the field, garden and orchard. In addition, the Experiment Station is making an earnest effort to assist the dairy industry, employing a fully equipped creamery for conducting such investigations as may seem advisable. To carry on this work the Experimental Station receives two funds from the Federal Government which include \$15,000, known as the "Hatch fund", and during the present year \$15,000 from the "Adams fund".

ENGINEERING DIVISION

R. E. CHANDLER, *Dean*

The Engineering Division embraces the courses in mechanical engineering, electrical engineering, civil engineering, and architectural engineering. The division has also charge of the instruction in physics.

The subjects of the Engineering Division are taught by the following departments:

The Department of Mechanical Engineering.

The Department of Electrical Engineering.

The Department of Civil Engineering.

The Department of Architectural Engineering.

The Department of English.

The Department of Mathematics and Astronomy.

The Department of Chemistry, Metallurgy, and Mineralogy.

The Department of Political Economy and Social Science.

The Department of Pedagogy and History.

The engineering courses are intended to prepare young men for positions of usefulness and responsibility in the mechanical, civil, electrical, and architectural engineering professions.

This division now occupies three buildings: The Engineering Building, the Shop Building, and the Civil Engineering Building. In these buildings are large and well lighted class and drafting rooms, a carpenter's shop, a machine shop, a blacksmith shop, and a foundry, all well equipped with tools and machinery. There is also the electrical laboratory equipped with direct and alternating current machinery and an excellent assortment of instruments, a civil engineering laboratory especially equipped for testing materials of construction, a mechanical engineering laboratory fitted with apparatus for making tests on steam engines, gas engines, and fuels,

The power plant of the College with its steam boilers, steam engines, and generators, is also used by the division for the purpose of making tests and familiarizing the students with the use of this class of machinery.

Outline of Courses in the Engineering Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and indicate the first (a), second (b), or third (c) term's work in the same subject. The name in parentheses is the specific name of the subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken.

FRESHMAN YEAR

(Same for All Courses in This Division.)

FALL TERM	WINTER TERM	SPRING TERM
English 1a.....4	English 1b.....4	English 1c.....4
Mathematics 1a.....5 (Algebra)	Mathematics 1b.....4 (Algebra)	Mathematics 1c.....3 (Algebra)
Mathematics 2a.....4 (Plane Geometry)	Mathematics 2b.....5 (Plane Geometry)	Mathematics 2c.....5 (Solid Geometry)
History 1a.....4 (Ancient History)	History 1b.....4 (Medieval History)	Public Speaking 1..... (4) (Vocal Expression)
Drawing 1a..... (4) (Freehand Drawing)	M. E. 1b..... (4) (Woodwork)	Physics 1.....4 (2) (Elem. Physics)
M. E. 1a..... (4) (Woodwork)	Drawing 1b..... (4) (Freehand Drawing)	M. E. 2..... (8) (Foundry & Pattern Making)
Public Speaking 1a..... (2)	Pub. Speaking 1b..... (2)	Pub. Speaking 1c..... (2)

SOPHOMORE YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 2a.....4	English 2b.....4	English 2c.....4
Mathematics 3.....5 (Trigonometry)	Mathematics 4a.....3 (Analytics)	Mathematics 4b.....3 (Analytics)
Chemistry 1a.....3 (4) (Inorganic Chem.)	Chemistry 1b.....4 (4) (Inorganic Chem.)	Chemistry 1c.....3 (4) (Inorganic Chem.)
M. E. 5.....3 (Mechanics)	M. E. 7a.....4 (2) (Descriptive Geom.)	M. E. 7b.....3 (2) (Descriptive Geom.)
M. E. 6a..... (6) (Mech. Drawing)	M. E. 6b..... (6) (Mech. Drawing)	M. E. 6c.....3 (4) (Mechan. Drawing)
		Civil Eng. 1..... (4) (Surveying)

Mechanical Engineering

JUNIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Physics 2.....3 (2) (Elec. & Magn.)	Physics 3.....3 (2) (Sound & Light)	Mathematics 6c.....4 (Calculus)
Mathematics 6a.....4 (Calculus)	Mathematics 6b.....4 (Calculus)	C. E. 10 b.....4 (Applied Mech.)
M. E. 9a..... (4) (Adv. Mech. Draw.)	C. E. 10a.....5 (Applied Mech.)	E. 3..... (2) (Wiring & Distribution)
E. 1a.....2 (2) (Elem. Elec. Eng.)	E. 1b.....2 (2) (Elem. Elec. Eng.)	M. E. 12.....1 (Steam Boilers)
M. E. 8.....2 (Kinematics)	M. E. 11a.....3 (Thermodynamics)	M. E. 4..... (8) (Machine Shop)
M. E. 3a..... (6) (Blacksmithing)	M. E. 10b..... (4) (Mech. Laboratory)	M. E. 9b..... (4) (Mech. Drawing)
M. E. 10a..... (4) (Mech. Laboratory)		M. E. 10c.....4 (Mech. Laboratory)
		M. E. 11b.....2 (Thermodynamics)

SENIOR YEAR

FALL TERM

M. E. 13a.....	4 (4)
(Machine Design)	
E. E. 7a.....	2 (2)
(Alternating Currents)	
C. E. 18.....	3 (2)
(Str. of Materials)	
M. E. 14.....	3 (4)
(Turbines)	
Social Science ..	4
(Com. Usages)	

WINTER TERM

M. E. 13b.....	4 (2)
(Mach. Design)	
E. E. 7b.....	2 (2)
(Alt. Currents)	
M. E. 15.....	3 (4)
(Gas Engines)	
M. E. 16.....	2 (4)
(Steam Power Plants)	
M. E. 17.....	1
(Seminar)	
Thesis	(4)

SPRING TERM

M. E. 13c.....	3 (4)
(Mach. Design)	
E. E. 7c.....	2 (2)
(Alt. Currents)	
C. E. 20.....	3
(Contracts & Spec.)	
M. E. 18.....	3
(Heating & Ventilating)	
E. E. 12.....	2 (2)
(Elec. Power Plants)	
Thesis	(4)

Electrical Engineering

JUNIOR YEAR

FALL TERM

Physics 2.....	3 (2)
(Elec. & Magn.)	
Mathematics 6a.....	4
(Calculus)	
M. E. 9a.....	4 (4)
(Adv. Mech. Drawing)	
E. E. 1a.....	2 (2)
(Elem. Elec. Eng.)	
M. E. 8.....	2
(Kinematics)	
M. E. 3a.....	6 (6)
(Blacksmithing)	
Elec. Eng. 2a.....	1 (1)
(Seminar)	
M. E. 10.....	4 (4)
(Mech. Laboratory)	

WINTER TERM

Physics 3.....	3 (2)
(Sound & Light)	
Mathematics 6b ..	4
(Calculus)	
Civil Eng. 10a ..	5
(Applied Mech.)	
Elec. Eng. 1b.....	2 (2)
(Elem. Elec. Eng.)	
M. E. 11a.....	3
(Thermodynamics)	
Elec. Eng. 2b	1 (1)
(Seminar)	
M. E. 10.....	4 (4)
(Mech. Laboratory)	

SPRING TERM

Mathematics 6c.....	4
(Calculus)	
Civil Eng. 10b.....	4
(Applied Mech.)	
Elec. Eng. 3.....	2 (2)
(Wiring & Distr.)	
Elec. Eng. 5.....	2 (4)
(Electro Chem.)	
M. E. 4.....	8 (8)
(Mach. Shops)	
Elec. Eng. 2c.....	1
(Seminar)	
M. E. 11b.....	2
(Thermodynamics)	

SENIOR YEAR

FALL TERM

M. E. 13a.....	4 (4)
(Mach. Design)	
Civil Eng. 18.....	3 (2)
(Str. of Materials)	
Elec. Eng. 6.....	2 (2)
(Photometry & Light)	
Elec. Eng. 7a.....	2 (2)
(Alt. Currents)	
Elec. Eng. 8a.....	1
(Seminar)	
Social Science.....	4
(Com. Usages)	

WINTER TERM

M. E. 13b.....	4 (2)
(Mach. Design)	
M. E. 16.....	2 (4)
(Steam Power Plants)	
Elec. Eng. 9.....	2 (2)
(Dynamo Design)	
Elec. Eng. 19.....	2
(High Volt. Transm.)	
Elec. Eng. 7b.....	2 (2)
(Alt. Currents)	
Elec. Eng. 8b.....	1
(Seminar)	
Elec. Eng. 11.....	3
(Elec. Railways)	

SPRING TERM

Civil Eng. 20.....	3
(Contracts & Spec.)	
Elec. Eng. 12.....	4 (2)
(Elec. Power Plants)	
Elec. Eng. 13.....	2
(Sub-Stations & Switchboards)	
Elec. Eng. 7c.....	2 (2)
(Alt. Currents)	
Elec. Eng. 8c.....	1
(Seminar)	
Elec. Eng. 14.....	2
(Tel. & Tel.)	
Elec. Eng. 15.....	1
(Wireless Telegraphy)	
Elec. Eng. 16.....	6 (6)
(Thesis)	

Civil Engineering

JUNIOR YEAR

FALL TERM

Physics 2.....	3 (2)
(Elec. & Magn.)	
Mathematics 6a ..	4
(Calculus)	
Civil Eng. 2.....	2 (4)
(Topo. Surveying)	
Civil Eng. 3.....	2 (4)
(Railroad Curves)	
Elec. Eng. 1a.....	2 (2)
(Ele. Elec. Eng.)	

WINTER TERM

Physics 3.....	3 (2)
(Sound & Light)	
Mathematics 6b.....	4
(Calculus)	
Civil Eng. 4.....	1 (4)
(Graphics)	
M. E. 3b.....	2 (2)
(Forge Shop)	
Elec. Eng. 1b.....	2 (2)
(Ele. Elec. Eng.)	
Civil Eng. 10a.....	5
(Applied Mech.)	

SPRING TERM

Civil Eng. 6.....	3
(Roads & Pave.)	
Mathematics 6c.....	4
(Calculus)	
Civil Eng. 5.....	2 (6)
(Roof Trusses)	
M. E. 4.....	8 (8)
(Machine Shop)	
Civil Eng. 10b.....	4
(Applied Mech.)	

SENIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Civil Eng. 7..... (2) (Retaining Walls and Dams)	Civil Eng. 14..... (4) (Masonry Con.)	Arch. Eng. 11..... 3 (Estimates)
Civil Eng. 8..... 2 (Irrigation Eng.)	Civil Eng. 15..... 3 (Reinforced Con.)	Civil Eng. 20..... 3 (Contracts & Spec.)
Civil Eng. 11..... 3 (2) (Hydraulics)	Civil Eng. 16..... 4 (Sanitary Eng.)	Civil Eng. 17..... 4 (Water Supply)
Civil Eng. 12..... 3 (4) (Bridge Stresses)	Civil Eng. 13a..... 2 (4) (Bridge Design)	Civil Eng. 13b..... 2 (4) (Bridge Design)
Civil Eng. 18..... 3 (2) (Str. of Materials)	Civil Eng. 19a..... 2 (Railroad Eng.)	Civil Eng. 19b..... 2 (Railroad Eng.)
Social Science 1..... 4 (Com. Usages)	Civil Eng. 21..... 1 (Seminar)	Thesis (8)

Architectural Engineering

JUNIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Physics 2..... 3 (2) (Elec. & Magn.)	Physics 3..... 3 (2) (Sound & Light)	Arch. Eng. 4..... 3 (History of Arch.)
Mathematics 6a..... 4 (Calculus)	Mathematics 6b..... 4 (Calculus)	Mathematics 6c..... 4 (Calculus)
Elec. Eng. 1a..... 2 (2) (Elem. Elec. Eng.)	Civil Eng. 4..... 1 (4) (Graphics)	Civil Eng. 5..... 2 (6) (Roof Trusses)
Arch. Eng. 1..... 3 (4) (Wood Con.)	Civil Eng. 10a..... 5 (Applied Mech.)	Civil Eng. 10b..... 4 (Applied Mech.)
Civil Eng. 2..... 2 (4) (Topo. Surveying)	Arch. Eng. 2..... (6) (Working Drawings)	Arch. Eng. 5..... 1 (4) (Orders of Arch.)
		Arch. Eng. 3..... 1 (4) (Building Plans)

SENIOR YEAR

FALL TERM	WINTER TERM	SPRING TERM
Civil Eng. 7..... (2) (Retaining Walls & Dams)	Civil Eng. 14..... 4 (4) (Masonry Con.)	Civil Eng. 20..... 3 (Contracts & Spec.)
Civil Eng. 12..... 3 (4) (Bridge Stresses)	Civil Eng. 13a..... (8) (Bridge Design)	Civil Eng. 13b..... (8) (Bridge Design)
Civil Eng. 18..... 3 (2) (Str. of Materials)	Civil Eng. 15..... 3 (Reinforced Con.)	Arch. Eng. 11..... 3 (Estimates)
Arch. Eng. 6..... (6) (Arch. Details)	Arch. Eng. 8..... 1 (Building Materials)	M. E. 18..... 3 (Heating & Ventilating)
Arch. Eng. 7..... 2 (2) (Plumbing)	Arch. Eng. 9..... 2 (4) (Steel Construction)	Arch. Eng. 10..... 2 (Superintendence)
Social Science 1..... 4 (Com. Usages)	Arch. Eng. 12a..... (4) (Thesis)	Arch. Eng. 12b..... (10) (Thesis)

DEPARTMENT OF MECHANICAL ENGINEERING

R. E. CHANDLER, *Professor*J. L. JONES, *Assistant Professor*E. E. BREWER, *Foreman of Shops*C. W. SKINNER, *Instructor in Wood Shop*F. R. BRADLEY, *Instructor in Machine Shop*

It is the purpose of this Department to train young men in a broad way for successful careers in the profession of Mechanical Engineering.

The early part of the course is devoted to a thorough ground-work in English, Mathematics, and Physics. Practical work in the College Shops is begun as soon as the student has progressed

sufficiently to understand the reasons for the various shop operations.

Commencing with the Sophomore year, considerable time each week is devoted to Mechanical Drawing, which is continued throughout the remainder of the course, either as such, or as a part of other courses, such as Power Plant Design, Machine Design, etc. A strong course in Descriptive Geometry is carried through two terms of the Sophomore year, being of great assistance in the Mechanical Drawing and Designing work of the Junior and Senior years. The problems set and the work done in these courses are of an eminently practical nature.

The Junior year marks the beginning of the work in Mechanical Engineering, as differentiated from Civil, Electrical, and Architectural. The work consists of the study of Mechanical movements, with their application to practical problems on the Drawing Board, the consideration of the theory of steam and other heat engines, both in the classroom and in the laboratory, and a course in Steam Boiler Design. Together with these Mechanical Engineering courses, very thorough instruction in Physics (including Sound and Light, Electricity and Magnetism), Applied Mechanics, and more advanced Mathematics is given.

In the Junior year, also, considerable work is done in the forge and machine shops; the conditions being made to approach modern manufacturing practice as nearly as possible.

The work of the Senior year is of a more technical nature. Broad theoretical and practical courses in Machine Design, Heating and Ventilating, Mechanics of Materials, Gas Engine Design and Operation, and the design of complete Steam and Electric Power Plants are given.

The outlook of the students is broadened by the introduction into the course of considerable work in Electrical Engineering, Contracts and Specifications, Hydraulic Turbine Design, and a study of the technical periodicals.

Each Senior student is required to write a thesis, giving the results of some important testing or designing work which he has carried on during the year.

The laboratory work in the Mechanical Engineering course is done according to a well considered schedule. The student is

assigned a problem a week or more in advance, and is expected to come to the laboratory prepared to do the work assigned. The greater part of the work is individual, only one student at a time being assigned to an experiment. The results of the experiment are reported, the student making his own observations and calculations, and writing out in detail exactly the work that has been done, and the results obtained. The work is carefully supervised, the reports graded and returned to the student for corrections. This laboratory work is carried throughout the entire Junior and part of the Senior year.

All Seniors and Juniors are required to visit practically all the power plants and industrial establishments in Stillwater and vicinity. These visits are made in groups of two students, who are assigned certain definite engineering subjects for investigation, and written reports on these subjects are required from each student.

The work in the various divisions has been carefully balanced, so that a student gets a well-rounded and well-balanced technical education.

Equipment

There are two drawing rooms, the Sophomore room having forty-eight desks and the Junior and Senior room thirty-two. The desks are well made and commodious, and the rooms are well lighted. They are open from 8:00 to 5:30 daily for study purposes.

The Mechanical Laboratory Equipment is distributed throughout several buildings. The 100,000-pound Reihle Tension and Compression Machine is situated in the main room of the laboratory. It is used for testing various materials of construction. This machine is arranged for making autographic records of the materials tested.

In this same room are a Pelton Wheel, arranged with flume, weir, and prony brake; a vertical steam engine and a gas engine, both arranged for belting to an Alden Absorption Dynamometer; three Injectors with all necessary apparatus for testing; and a Hydraulic Ram, completely equipped. This room also contains a large cabinet, in which are stored the numerous gauges, indi-

cators, thermometers, extensometers, micrometers and other apparatus used by the students in their laboratory and thesis tests.

In the large cold storage room at the new power plant, are situated a complete outfit for testing road making materials. This apparatus comprises an abrasion machine, a hardness machine, a diamond drill, lapidary's saw, rock crusher and impact machine. These machines are driven by belting from a line shaft operated by a horizontal steam engine. There is also an Air Blower, a Locomotive Type Air Pump, a Rotary Pump, and other apparatus, all arranged for heating.

In the basement of the Engineering Building is the Calorimeter room, in which calorimetric tests for heating value of coals, oils, and other substances are made.

The boilers and engines at the College power plant are also made use of for laboratory purposes, as well as the oil pipe lines and the heating and ventilating systems in the various buildings.

The Forge Shop has twenty-four down draft forges, air being supplied by a forced blast fan and smoke being exhausted through hoods by a vacuum exhaust system. The foundry has an 18-inch cupola, core oven and sifter, foundry benches and tools. A large pit in the floor is used for bedding in and for a casting bed.

The Machine Shop is equipped with lathes, shaper, milling machine, planer, universal grinder, drill presses, pipe cutting machines, and an extensive assortment of small tools, well kept in a carefully arranged tool room. Stress is laid on accuracy of measurement.

The Wood Working and Pattern Shop is equipped with a circular saw, a band saw, wood-turning lathes, pattern makers' lathes, and work benches, with a complete equipment of tools. Each student is assigned a kit of small tools, which are his to use and keep in order as long as he works in that department.

SUBJECTS

- I. WOOD WORKING.—Freshman year, fall and winter terms; four hours practicum per week.

Bench work in wood; sawing, planing and joining; center and chuck turning in wood; instruction in care and use of tools.

2. PATTERN MAKING AND FOUNDRY.—Freshman year, spring term; eight hours practicum per week.

Construction of patterns; moulding in sand; core making; melting iron and pouring castings.

- 3 a. BLACKSMITHING.—Junior year, fall term; six hours practicum per week.

Iron and steel forging; drawing; upsetting; welding and tempering.

- 3 b. BLACKSMITHING.—Winter term; two hours per week for C. E. students.

4. MACHINE SHOP.—Junior year, spring term; eight hours practicum per week.

Filing and chipping; metal work on lathes, planer, shaper, and milling machine.

5. MECHANICS.—Sophomore year, fall term; three recitations per week.

Elementary course in mechanics, including statics and kinetics. Prerequisite, Mathematics 2c.

- 6 a-b-c. MECHANICAL DRAWING.—Sophomore year, fall, winter and spring terms; six hours per week, fall and winter terms; four hours per week spring term.

Fall term: Lettering and use of instruments. Winter term: Drawing from copy. Spring term: Elementary design. No text used, but students must furnish instruments.

- 7 a-b. DESCRIPTIVE GEOMETRY.—Sophomore year, winter and spring terms; four hours theory and two hours practicum per week, winter term; three hours theory and two hours practicum per week, spring term.

Orthographic projection; lines, planes and surfaces; axonometric projections, surfaces of the second order; intersections, shades and shadows, and linear perspective. Prerequisite, Mathematics 3.

8. KINEMATICS.—Junior year, fall term; two recitations per week.

Study of mechanical movements, including gearing, belting, links, etc. Prerequisite, Mechanical Engineering 6a-b-c.

- 9 *a-b*. ADVANCED MECHANICAL DRAWING.—Junior year, fall term; four hours practicum per week; spring term, four hours per week.

Drafting room work in the design of gears and cams, fall term. Kinematics and elementary machine design, spring term.

10. MECHANICAL LABORATORY.—Fall, winter and spring terms; four hours per week.

Tests and reports on materials of construction, steam, gas and gasoline engines, water wheels and engineering apparatus. Practical application of the theory of the flow of water, gas and crude oil in pipes. Tests of pumps, hydraulic rams, injectors and air compressors. Determination of the heating value of coals and oils. Studies of the relative values of different sorts of road materials. Visits to all the power plants in the vicinity.

11. THERMODYNAMICS.—Junior year, winter term; three hours theory; spring term, two hours theory.

Study of thermodynamics of steam engines, and the testing of engines, pumps, gauges, ignitors, etc. Prerequisite, Mathematics 6a.

12. STEAM BOILERS.—Junior year, spring term; one hour theory.

Study of boilers. Practicum will be the design of boilers.

- 13 *a-b-c*. MACHINE DESIGN.—Senior year, fall, winter and spring terms; fall term, four hours theory, four hours practicum; winter term, four hours theory, two hours practicum; spring term, three hours theory, four hours practicum.

The fall and winter terms are spent in the design of mechanical parts. Spring term, engine design. The practicum will be drafting work, design, machines and machine parts. Prerequisite, Mathematics 6c.

14. TURBINES.—Senior year, fall term; three hours theory, four hours practicum.

Study of steam and water turbines. Practicum will be testing and design. Prerequisite, M. E. 10a-b, M. E. 6.

15. GAS ENGINES.—Senior year, winter term; three hours theory; four hours practicum.

A study of gas and oil engines, and gas producers. Practicum will be the testing of gas engines. Prerequisite, M. E. 10a-b.

16. STEAM POWER PLANTS.—Senior year, winter term; two hours theory, and four hours practicum.

Study and design of steam power plants. Prerequisite, M. E. 10a-b.

17. SEMINAR.—Senior year, winter term; one hour.

Discussion of articles in leading technical magazines.

18. HEATING AND VENTILATING.—Senior year, spring term; three hours theory.

Study of steam, hot water, gravity, and forced hot air systems of heating.

Department of Electrical Engineering and Physics

ARLINGTON P. LITTLE, *Associate Professor*

The Electrical Engineering course aims to give the student a thorough working knowledge of the fundamental principles underlying the operation of electrical machinery. It is expected that after obtaining the proper practical experience, the graduate will be able to act successfully as a designer or manager in any of the electrical industries or to take charge of construction work. The work in electrical engineering is in large part the same as that in mechanical engineering, and during the first two years the courses in mechanical and electrical engineering are identical.

A thorough mathematical preparation is essential to the more advanced electrical courses, especially those in alternating currents. The courses on the theory of electrical machinery are supplemented by practice in calculating and designing such machines in the drawing room.

In the Junior and Senior years, the work is carried on by lectures, recitations, and laboratory practice in the management and testing of electrical machinery. The lectures and recitations cover explanations of theoretical principles underlying the action of the various machines and apparatus, together with discussions of modern practice in all the important subdivisions of electrical engineering. Laboratory practice consists in performing experiments, making measurements and testing machines and apparatus, similar to the commercial testing carried on by manufacturing companies. This work includes electrical measurements; theory; design, and testing of rotary converters, and transformers: stor-

age battery, arc and incandescent lamp testing; power plant and sub-station design; long distance power transmission, and systems of power distribution; electric lighting; electric wiring; telegraph and telephone engineering, wireless telegraphy, etc.

The electrical engineering laboratory is situated in the basement of main Engineering Building. The machinery has been selected and arranged in such a manner as to afford students the greatest facility for acquiring a thorough knowledge of different types of electrical machinery, their management and methods of testing. Especial attention has been devoted to alternating poly-phase machinery,—justified, it is believed, by the rapid development of this branch of engineering. Power is furnished by a 30 KW, a 40 KW and a 100 KW dynamo, directly connected to automatic engines. The other electrical machines consist of direct current series shunt and compound dynamos and motors, alternating current transformers, Scott phase-changing transformers, 2-phase and 3-phase rotary converters, single-phase, 2-phase and 3-phase induction motors, all of latest design. The laboratory is well supplied with all necessary measuring instruments, including voltmeters, ammeters, and wattmeters of wide range for alternating and direct current, tachometers, etc., as well as galvanometers and other instruments of great precision.

Two rooms are devoted to photometric and calibration work. These contain a photometer with accessories and light standards, a storage battery of 100 cells, and the principal types of arc and incandescent lamps for efficiency and light distribution tests. The following have recently been added to the equipment: The Grant flaming arc lamp; the Cooper-Hewitt mercury vapor arc lamp; and the Westinghouse metallic flame arc lamp.

The calibration room is in the basement of the Engineering Building and is equipped with a Weston standard laboratory voltmeter and a Leeds & Northrup potentiometer having an accuracy of 1-50 of one per cent. At the beginning of each year the electrical instruments are standardized by comparison with the potentiometer, in order that electrical measurements made in performing laboratory experiments may be accurate.

The laboratory in the basement of the Engineering Building is equipped with a wireless telegraph set, mercury arc rectifier,

storage batteries, galvanometers, electroplating material, telephone and telegraph instruments, and other instruments for performing experiments in physics and electrical engineering.

The new power plant has been equipped with a motor generator set obtaining current from the city 3-phase lines to furnish power at times of small load.

The facilities of the laboratory in the Senior year are to be employed in the preparation of a graduating thesis, and original work is required of each student. For original experiments in this connection, instruments of high precision are placed at the disposal of Senior students, and the workshops of the College afford opportunity for the construction of special apparatus.

The courses offered in physics embrace mechanics, pneumatics, hydrostatics, heat, sound, light, electricity and magnetism. The lectures and recitations are supplemented by practice work in the physics laboratory.

SUBJECTS

ELECTRICAL ENGINEERING

- 1 *a-b*. ELEMENTS OF ELECTRICAL ENGINEERING.—Junior year, fall and winter terms; two classroom periods and two hours practicum per week.

Electro-magnetic system of units; switchboards; storage batteries; theory and practical management of direct current dynamos and motors.

- 2 *a-b-c*. JUNIOR SEMINAR.—Fall, winter, and spring terms; one hour per week.

Discussion of leading articles on electrical engineering in technical magazines.

3. ELECTRIC WIRING AND DISTRIBUTION OF POWER.—Junior year, spring term; two hours practicum per week.

Systems of direct and alternating current; distribution of power; testing; practical lighting and motor wiring.

5. ELECTRO CHEMISTRY.—Junior year, spring term; two classroom periods, four hours practicum per week.

Electrolytic refining of metals; electroplating, electrotyping; pol-

ishing and burnishing; electric furnace work; care and management of storage batteries. Prerequisites, Physics 2, and Chemistry 1a-b-c.

6. PHOTOMETRY AND ELECTRIC LIGHTING.—Senior year, fall term; two classroom periods, and two hours practicum per week.

The underlying principles of illuminating engineering; study and test of arc and incandescent lamps; practice in laying out wiring plans for buildings; specifications covering these plans.

- 7 a-b-c. ALTERNATING CURRENTS AND ALTERNATING CURRENT MACHINERY.—Senior year, fall, winter and spring terms; two classroom periods and two hours practicum per week throughout the year.

Theory of alternating currents and alternating machinery; measuring instruments; commercial testing of alternators; alternating current motors and transformers. Prerequisites, E. E. 1, and Mathematics 6a-b-c.

- 8 a-b-c. SENIOR SEMINAR.—Fall, winter and spring terms; one hour per week.

Discussion of important articles on advanced electrical engineering work in technical magazines and the Transactions of American Institute of Electrical Engineers.

9. DYNAMO DESIGN.—Senior year, winter term; two classroom periods, and two hours practicum per week.

Design of direct current generators and motors and their controlling devices, and comparison of results with commercial machinery of same rating. Prerequisite, E. E. 1.

10. HIGH VOLTAGE TRANSMISSION.—Senior year, winter term; two classroom periods per week.

Calculation of high voltage transmission lines; discussion of the special difficulties encountered in long distance power transmission; details of line construction.

11. ELECTRIC RAILWAYS.—Senior year, winter term; three classroom periods per week.

Direct and alternating current railway systems; overhead construction; rotary converters; transformer sub-stations; electrification of steam roads; train performance diagrams. Lectures.

12. POWER PLANT DESIGN.—Senior year, spring term; four classroom periods, and two hours drawing each week.

Design of alternating current and direct current isolated power plants and central stations. Prerequisites, E. E. 1, and E. E. 7a-b.

13. SUB-STATIONS AND SWITCHBOARDS.—Senior year, spring term; two hours per week.

Location of rotary converter and transformer sub-stations; low and high potential switchboards; arrangement of apparatus and instruments; details of wiring. Prerequisites, E. E. 1, 7a-b.

14. TELEGRAPH AND TELEPHONE ENGINEERING.—Senior year, spring term; two classroom periods per week.

A study of the principal telephone and telegraph systems; relays; repeaters; duplex and quadruplex telegraph; high speed telegraphy; writing and printing telegraph. Prerequisite, E. E. 1.

15. WIRELESS TELEGRAPHY.—Senior year, spring term; one classroom period per week.

A study of the various systems of wireless telegraphy, plain and sytonic; erecting stations; adjusting apparatus and sending and receiving signals. Prerequisite, Physics 2.

16. THESIS.—Senior year, spring term; six hours per week.

Original experiments and investigation in some important branch of electrical engineering.

PHYSICS

1. ELEMENTARY PHYSICS.—Freshman year, spring term; four classroom periods and two hours laboratory practice per week.

Force, work, power, energy; simple machines; properties of solids, liquids and gases; absolute and gravitational units; composition and resolution of forces; specific gravity; measurement of temperature; fusion; vaporization; specific heat; conduction, convection and radiation. Prerequisite, Mathematics 1a and 1b.

2. ELECTRICITY AND MAGNETISM.—Junior year, fall term; three classroom periods and two hours laboratory practice per week.

Electric attraction and repulsion; the electroscope; induction; condensers; capacity; primary and secondary batteries; Ohms law; calculation of resistance; electrical measuring instruments; electrolysis; electromotive force and current; wheatstone bridge; natural and artificial magnets; field of force; the compass; electromagnets; the telegraph and telephone.

3. SOUND AND LIGHT.—Junior year, winter term; three classroom periods and two laboratory practice hours per week.

Sound waves, simple and complex; transmission and reflection of sound; resonance; musical sound waves; transverse and longitudinal vibrations; pitch and quality; interference. Light waves; photometry; velocity of light; reflection; refraction; mirrors; plane, convex and concave; lenses; construction and theory of the telescope, microscope, and other optical instruments; the spectroscope and spectrum analysis; polarization of light.

Department of Civil Engineering

ALFRED BOYD, *Professor*

The work in this department is designed to furnish a thorough course of theoretical instruction, accompanied by practice in the various lines of civil engineering. The work as outlined is identical with that of the mechanical and electrical engineering departments during the first two years of the course.

The department possesses ample facilities for ordinary, topographic, and railroad surveying. The equipment consists of various standard makes of engineers' transit, solar attachments, mining transits, a railroad compass, plane table, engineers' wye and dumpy levels, barometer, hand levels, clinometer, chains, tapes and rods. A 200-foot steel tape standardized by the U. S. Government is used for accurate base line work and for correcting steel tapes.

The cement laboratory is located in the Civil Engineering Building, and is well equipped for instruction in all lines of cement testing, supplementary to the classroom work in masonry construction. It is furnished with a Fairbanks 1,000-pound briquette testing machine, an Olsen 1,000-pound briquette testing machine, moulds for making briquettes, sieves for sand and cement testing, moist closets, Vicat needle, tanks, Gillmore needles, specific gravity and boiling apparatus. In connection with theoretical work in strength of materials, considerable time is spent in the laboratory making tests of concrete beams and arches—plain and reinforced, brick, timber, and stone, with the 100,000-pound Riehle testing machine.

The department also possesses a large collection of working drawings that are available to the student for reference work in designing. Among these are railroad maps, profiles, detail plans

of roofs, steel and concrete bridges, sewer and water supply systems.

Laboratory instruction in hydraulics consists of measurements of flow of water through orifices and pipes and over weirs. Field practice consists of measurements of flow of water by use of weirs, current meters, and floats.

SUBJECTS

1. SURVEYING.—Sophomore year, spring term; four field hours per week.

Theory, use and adjustment of instruments; field work, computations and reports, maps and profiles; U. S. land surveying, court decisions and deeds.

2. TOPOGRAPHIC SURVEYING.—Junior year, fall term; two recitations and four field hours per week.

Theory of plane table and stadia; different methods of making topographic surveys; use of the barometer and base line apparatus; a complete survey and topographic map, based on a system of triangulation, is made by plane table and stadia methods; topographic signs.

3. RAILROAD CURVES.—Junior year, fall term; two recitations and four field hours per week.

The geometry of the simple, compound, reverse and transition curve is considered; turnouts; computation of earthwork; field practice in laying out curves. A complete survey is made of a short line of railroad; maps and profiles are made in the office, and cost computed.

4. GRAPHICS.—Junior year, winter term; one recitation and four drafting room hours per week.

Graphical analysis of structures. Stresses in roof trusses due to dead and wind loads.

5. ROOF TRUSSES.—Junior year, spring term; two recitations and six drafting room hours per week.

Stresses by algebraic methods. A complete design is made of a truss in wood and one in steel.

5. ROADS AND PAVEMENTS.—Junior year, spring term; three recitations per week.

A study of the best methods of construction and maintenance of different types of country roads and city pavements, including allowable grades, drainage and methods of assessment.

7. **RETAINING WALLS AND DAMS.**—Senior year, fall term; two drafting room hours per week.

Earth and water pressure; stability of walls and dams; design of walls and foundations.

8. **IRRIGATION ENGINEERING.**—Senior year, fall term; two recitations per week.

Grades, cross-sections, and capacity of canals; surveys; designs of structures; sources of water supply; analysis of hydrographic data; Oklahoma streams; return and seepage water; application to crops; irrigation by pumping; irrigation law.

9. **MECHANICS.**—Sophomore year, fall term; three recitations per week.

Elementary course in mechanics including statics and kinetics.

- 10 *a-b*. **APPLIED MECHANICS.**—Junior year, winter and spring terms; five recitations per week, winter term, and four recitations per week, spring term. Prerequisites, Mathematics 6*a*.

Center of gravity; moment of inertia; theory of structures; friction; cables; work and energy; impact; motion.

11. **HYDRAULICS.**—Senior year, fall term; three recitations and two laboratory hours per week.

Pressure and motion of water; laws of flow over weirs, through orifices, tubes, nozzles, pipes, conduits, canals and rivers; meters and measurements of discharge; motors, turbines and water wheels.

12. **BRIDGE STRESSES.**—Senior year, fall term; three recitations and four drafting room hours per week.

Analysis of different types of bridges and other framed structures; design of abutments and piers.

- 13 *a-b*. **BRIDGE DESIGN.**—Senior year, winter and spring terms; two recitations and four drafting room hours per week.

A complete design, with detailed drawings, is made of a plate girder bridge, a railroad bridge, and a short-span reinforced concrete arch.

14. **MASONRY CONSTRUCTION.**—Senior year, winter term; four recitations and four laboratory hours per week.

Materials of construction, including cement, concrete, brick and stone; fireproofing. Ordinary and deep foundations.

15. REINFORCED CONCRETE.—Senior year, winter term; three recitations per week.

Theory and practice in the design of reinforced concrete.

16. SANITARY ENGINEERING.—Senior year, winter term; four recitations per week.

The design and construction of sewerage systems; separate and combined systems; size of sewers; plans and estimates of cost; construction; modern methods of sewage disposal.

17. WATER SUPPLY.—Senior year, spring term; four recitations per week.

Source and supply; methods of furnishing, purifying and distributing; design of reservoirs, tanks and standpipes.

18. STRENGTH OF MATERIALS.—Senior year, fall term; three recitations and two laboratory hours per week.

Strength and deflection of beams, girders, and columns; shafts; strength of pipe.

- 19 *a-b*. RAILROAD ENGINEERING.—Senior year, winter and spring terms; two recitations per week.

Methods of construction and maintenance of roadbed and structures; surveys and estimates; organization; signalling; economic theory as applied to location and operation.

20. CONTRACTS AND SPECIFICATIONS.—Senior year, spring term; three recitations per week.

The law of contracts as applied to engineering practice; the technical features of specifications; relation of engineer and contractor.

21. CIVIL ENGINEERING SEMINAR.—Senior year, winter term; one hour per week.

Readings and reports on current civil engineering subjects, as discussed in technical magazines.

Department of Architectural Engineering

W. A. ETHERTON, *Professor*

A large part of the work given in the other engineering courses applies directly to Architectural Engineering; this is especially true of the work in the Civil Engineering course.

All the equipment of the other engineering departments is used for instruction in architectural engineering. In the wood-

shop,—students in this department learn the principles of carpentry. The electrical engineering laboratory affords practical instruction in the electrical wiring and lighting of buildings. In the mechanical engineering laboratory investigations are made on the heating and ventilating of buildings. The testing laboratory is used to give instruction in the methods of testing and determining the strength of cements, mortars, brick, stone and other building materials.

During the Freshman and Sophomore years the course is identical with the other engineering courses. Students in architectural engineering take up the special work pertaining to architecture during the Junior and Senior years.

SUBJECTS

1. WOOD CONSTRUCTION.—Junior year, fall term; three hours theory and four hours practicum per week.

Attention is given to the properties and adaptabilities of the various woods used in building construction; to the grading and inspection of lumber, and to modern methods of framing and joining. Prerequisite, M. E. 6.

2. WORKING DRAWINGS.—Junior year, winter term; six hours practicum per week.

This subject comprises a study in detail of working drawings from the offices of the most reputable architects in the country, and a practical application of the principles and methods of architectural drafting, derived from these drawings, and from books and plates in the Architectural Library. This subject is especially valuable to prospective building superintendents and foremen. Prerequisite, A. E. 1.

3. BUILDING PLANS.—Junior year, spring term; one hour theory and four hours practicum.

A study of the principles of planning and their application to simple problems. Plans will be made of residences, school buildings, churches, etc. Prerequisites, A. E. 1 and 2.

4. HISTORY OF ARCHITECTURE.—Junior year, spring term; three hours per week.

A study of the important historical styles of architecture, the elementary forms of design and systems of construction. Typical examples of each style will be studied in detail.

5. ORDERS OF ARCHITECTURE AND PERSPECTIVE.—Junior year, spring term; one hour theory and four hours practicum.

A detailed study of the five orders of architecture, and in their relative proportions, is made contemporaneously with A. E. 4, in which the student learns of the origin, development and the use of the orders in the various styles of architecture. The principles of perspective and their application to simple problems as given here will enable the student to continue successfully a study of the subject without the assistance of an instructor.

6. ARCHITECTURAL DETAILS.—Senior year, fall term; six hours practicum.

Subsequent to the preparation of general plans for buildings, details for all construction work will be made, and the student here prepares scale drawings for cornices, window and door frames, stairs, inside trim, cases, etc. Prerequisites, A. E. 2 and 3.

7. PLUMBING.—Senior year, fall term; two hours theory and two hours practicum per week.

A study of water supply to buildings and the removal of soil and waste; pipe construction; traps; plumbing fixtures; ventilation, etc.

8. BUILDING MATERIALS.—Senior year, winter term; one recitation per week.

A detailed study of all building materials not included in masonry and wood construction. Ornamental iron and sheet metal work; plastering; metal lath and corner beads; tiling and mosaic; composition flooring; glass and glazing; roofing; insulating and sound-deadening materials; paints; building hardware; elevators, etc.

9. STEEL CONSTRUCTION.—Senior year, winter term; two hours theory and four hours practicum per week.

Advanced graphics and roofs, and special problems in wood, steel and cast iron framing, and in foundations. Prerequisites, C. E. 4, 5 and 10.

10. SUPERINTENDENCE.—Senior year, spring term; two recitations per week.

The duties and power of the architect as superintendent. The obstacles with which he has to contend, and the best methods of handling them. The importance and necessity of complete and properly prepared plans and specifications to effective supervision.

11. ESTIMATES.—Senior year, spring term; three recitations per week.

Practical problems in the various methods of estimating quantities and cost of materials. Methods of approximate estimates by

volume and by floor areas, and of detailed estimates of all materials and labor.

- 12 *a-b*. THESIS.—Senior year, winter and spring terms; four hours per week practicum in the winter term, and ten hours in spring term.

The student prepares for his thesis complete plans for the structural work of a steel or reinforced concrete, fireproof office or commercial building.

13. ARCHITECTURE.—Senior year, fall term; one hour theory and two hours practicum per week.

This work for the Domestic Science Department comprises a series of illustrated lectures on home buildings intended to direct the attention of the student to the essentials of good planning, designing, decorating, sanitation, and equipment of the modern residence; to create a rational criticism of home and landscape architecture and to awaken an interest in these subjects for future study. Two hours practicum per week will be devoted to the practical solution of elementary problems.

DOMESTIC SCIENCE AND ARTS DIVISION

The course in Domestic Science and Arts for 1911-12 is much more comprehensive than heretofore.

An entire floor of the new Woman's Building will be set aside for the work in Domestic Science and Arts. The space at command comprises two large sewing rooms, a cutting and fitting room, a kitchen laboratory, practice dining room, demonstration lecture and recitation room, and a studio, besides offices, lockers, etc.

The courses offered in domestic science and arts are as follows:

1. The regular four years' course, leading to the degree of Bachelor of Science.
2. A course in connection with the Teachers' Normal Division. It is intended chiefly for those needing a general elementary knowledge of domestic science and arts for use in connection with the teaching of the common school branches. This occupies four hours weekly during two terms of the Sophomore year.
3. A two years' course in connection with the Short Course in Agriculture. Simple work is given in sewing, cooking, hygiene, sanitation, house furnishing, etc. This course is adapted to the needs of those who wish to apply the knowledge gained to the solving of problems met in their own housekeeping.

The subjects of the Domestic Science and Arts Division are taught by the following departments:

The Department of Domestic Science.

The Department of Domestic Arts.

The Department of Drawing.

The Department of Zoology and Veterinary Science.

The Department of Architectural Engineering.

The Department of Electrical Engineering and Physics.

The Department of Horticulture and Botany.

The Department of English.

The Department of German and Latin.

The Department of Mathematics and Astronomy.

The Department of Chemistry, Metallurgy, and Mineralogy.

The Department of Entomology.

The Department of Pedagogy and History.

Outline of Courses in the Domestic Science and Arts Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and indicate the first (*a*), second (*b*), or third (*c*) term's work in the same subject. The name in parentheses is the specific name of the subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken.

FRESHMAN YEAR

FALL TERM

English 1a.....	4
Mathematics 1a.....	5
(Algebra)	
Mathematics 2a.....	4
(Plane Geometry)	
History 1a.....	4
(Ancient History)	
Drawing 1a.....	(4)
(Ele. Drawing)	
Domestic Arts 3a.....	(2)
(Basketry)	
Domestic Arts 1a.....	(2)
(Sewing)	
Public Speaking 1a.....	(2)

WINTER TERM

English 1b.....	4
Mathematics 1b.....	4
(Algebra)	
Mathematics 2b.....	5
(Plane Geometry)	
History 1b.....	4
(Medieval History)	
Drawing 1b.....	(4)
(Object Drawing)	
Domestic Arts 3b.....	(2)
(Basketry)	
Domestic Arts 1b.....	(2)
(Sewing)	
Pub. Speaking 1b.....	(2)

SPRING TERM

English 1c.....	4
Mathematics 2c.....	5
(Solid Geometry)	
Physics 1.....	4 (2)
(Ele. Physics)	
Botany 1.....	3 (4)
(Ele. Botany)	
Drawing 1c.....	(2)
(Ele. Design)	
Domestic Arts 1c.....	1 (2)
(Sewing)	
Pub. Speaking 1c.....	(2)

SOPHOMORE YEAR

FALL TERM

English 2a.....	4
German 1a.....	4
(Beginners' Course)	
or Latin 1a.....	5
(Caesar)	
Chemistry 1a.....	3 (4)
(Organic Chem.)	
Drawing 2a.....	1 (2)
(Composition)	
Zoology 1.....	3 (4)
(General Zoology)	
Domestic Arts 2a.....	(2)
(Millinery)	

WINTER TERM

English 2b.....	4
German 1b.....	4
(Beginners' Course)	
or Latin 1b.....	5
(Caesar)	
Chemistry 1b.....	3 (4)
(Inorganic Chem.)	
Drawing1	(2)
(Color Theory)	
Domestic Sci. 1a.....	1
(Hygiene)	
Domestic Sci. 2a.....	1
(Theory of Cooking)	
*Domestic Sci. 3a.....	(4)
(Cooking Prac.)	
Domestic Arts 2c.....	(2)
(Millinery)	
Domestic Arts 4.....	1
(Textiles)	

SPRING TERM

English 2c.....	4
German 1c.....	4
(Beginners' Course)	
or Latin 1c.....	5
(Caesar)	
Chemistry 1c.....	3 (4)
(Inorganic Chem.)	
Drawing 2c.....	1 (2)
(Applied Design)	
Domestic Sci. 1b.....	1
(Sanitation)	
Domestic Sci. 2b.....	1
(Theory of Cooking)	
Domestic Sci. 3b.....	(4)
(Cooking Practice)	
Domestic Arts 5.....	1
(History of Cos.)	
Domestic Arts 2c.....	(2)
(Millinery)	
Domestic Arts 4b.....	1
(Textiles)	

* Prerequisites: Freshman, physics and Botany; Sophomore, zoology and inorganic chemistry. Correlative, domestic science 2a.

JUNIOR YEAR

FALL TERM

English 3.....	5
(Shakespeare's Plays)	
Botany 10.....	3 (4)
(Molds & Mildews)	
Physiology 1.....	3 (4)
(Adv. Physiology)	
Domestic Sci. 4a.....	2
(Home Economics)	
Domestic Sci. 5a.....	1
(Social Observ.)	
Domestic Sci. 6a.....	1
(Theory of Cooking)	
*Domestic Sci. 7a.....	(2)
(Cooking Prac.)	
Domestic Arts 6.....	(2)
(Drafting)	

WINTER TERM

English 4a.....	5
(18th Cent. Lit.)	
Chemistry 4.....	2
(Household Chem.)	
Public Speaking.....	(2)
(Course Selected)	
Drawing 3a.....	2 (2)
(Casts)	
Drawing 4a.....	(2)
(Wood Carving)	
Domestic Sci. 4b.....	2
(Home Economics)	
Domestic Sci. 5b.....	2
(Social Observ.)	
Domestic Sci. 6b.....	1
(Theory of Cooking)	
Domestic Sci. 7b.....	(2)
(Cooking Practice)	
Domestic Arts 7.....	(2)
(Cutting & Fitting)	

SPRING TERM

English 4b.....	5
(18th Cent. Litt.)	
Entomology 2.....	2 (2)
(Household Ento.)	
Horticulture 9.....	5
(Gardening)	
Drawing 3b.....	1 (2)
(Applied Arts)	
Drawing 4b.....	(2)
(Wood Carving)	
Domestic Sci. 4c.....	1
(Home Economics)	
Domestic Sci. 6c.....	1
(Theory of Cooking)	
Domestic Sci. 7c.....	(2)
(Cooking Prac.)	
Domestic Arts 8.....	(4)
(Dressmaking)	

*Prerequisites: Sophomore, domestic science 2a and 2b; 3a and 3b. Correlative, domestic science 6a.

SENIOR YEAR

FALL TERM

English 5.....	5
(Poetry of Tennyson)	
Bacteriology 1.....	3 (4)
(Gen Bacteriology)	
Arch. Eng. 13.....	1 (2)
(Architecture)	
Domestic Sci. 8a.....	2
(House Furnishing)	
Domestic Sci. 9.....	2
(Home Nursing)	
Domestic Sci. 10.....	(2)
(Invalid Cooking)	
Domestic Sci. 11a.....	1 (2)
(Demonstrations)	
Domestic Sci. 12a.....	1 (2)
(Teach. Dom. Sci.)	
Domestic Arts 9.....	(2)
(Adv. Handwork)	
Domestic Arts 12a.....	1
(Theory of Sewing)	

WINTER TERM

English 6.....	5
(Romantic Move.)	
Zoology 4.....	2 (4)
(Embryology)	
Pedagogy 2.....	5
(History of Ed.)	
Domestic Sci. 8b.....	1
(House Furnishing)	
Domestic Sci. 13a.....	2
(History of Foods)	
Domestic Sci. 14a.....	(2)
(Adv. Cooking)	
Domestic Sci. 11.....	(2)
(Demonstrations)	
Domestic Sci. 12b.....	1 (2)
(Teach. Dom. Sci.)	
Domestic Arts 10a.....	(2)
(Fine Needlework)	

SPRING TERM

English 7.....	5
(Carlyle & Ruskin)	
Domestic Sci. 13b.....	2
(History of Foods)	
Domestic Sci. 14b.....	(2)
(Adv. Cooking)	
Domestic Sci. 11c.....	1 (2)
(Demonstrations)	
Domestic Sci. 15.....	2
(School Equipment)	
Domestic Sci. 12c.....	1 (2)
(Teach. Dom. Sci.)	
Domestic Sci. 16.....	(4)
(Chem. of Foods)	
Domestic Sci. 17.....	2
(House Manage.)	
Domestic Arts 10b.....	(4)
(Fine Needlework)	
Domestic Arts 12b.....	1
(Theory of Sewing)	

*The domestic science course of the Senior year is open only to students who have carried the entire preliminary work.

Domestic Science Department

SARAH WINDLE LANDES, *Professor*
IVA MCBRIDE, *Assistant*

For conducting the work, the department contains an extensive and up-to-date equipment.

The kitchen laboratory has a large steel range, for burning either wood or coal; also, a gas range, and individual gas burners. There is an abundant supply of cooking utensils, of the latest and most approved models, comprising many labor-saving devices. In several museum cases are shown methods used in the manu-

facture of flour, breakfast foods, cocoa, and other food products. The equipment holds also a valuable set of four meat-cutting charts, which designate the location of the bones, and the usual methods of cutting meats in the markets.

The dining room has, besides a commodious dining table and chairs, a well-furnished sideboard and two china closets stocked with an entire dinner and tea set. There are, besides, knives, forks, and other table implements in silver, as well as fancy pieces in silver, china and crystal.

In the College Library there are many valuable books of reference on domestic science and allied subjects. The Department of Domestic Science receives regularly about one dozen of the best household magazines.

SUBJECTS

- 1 *a.* HYGIENE.—Sophomore year, winter term; one hour theory per week.

In this course it is the purpose to give a practical knowledge of the functions of the human body, and to show the need of personal responsibility in the care and improvement of the health.

- 1 *b.* SANITATION.—Sophomore year, spring term; one hour theory per week.

Attention is given to the sanitation and surroundings of the house; also to the water supply, drainage, ventilation, heating, lighting, furnishing, and cleaning.

- 2 *a.* THEORY OF COOKING.—Sophomore year, winter term; one hour per week.

A study is made of the various classes of food with regard to chemical composition, digestibility, and nutritive value; also methods of cultivation and commercial value of commonly used foods are considered.

- 2 *b.* THEORY OF COOKING.—Sophomore year, spring term; one hour per week.

A continuation of the study of food materials; also various methods of cooking; care of foods, etc.

- 3*a.* COOKING PRACTICUM.—Sophomore year, winter term; four hours practicum per week.

The practical work in cooking begins with the preparation of

starchy foods, such as the cereals, potatoes, macaroni, etc. The dishes given are those requiring only simple manipulation. Attention is paid to the differing effects of moist and of dry heat upon food materials. Students are trained in the management of gas and of coal as sources of heat for cooking.

- 3b. COOKING PRACTICUM.—Sophomore year, spring term; four hours practicum per week.

This continues the work of the winter term, but practice deals mainly with the proteids, as eggs, fish, meat; and with simple flour mixtures, such as biscuits, gems, cookies, and plain loaf cakes. Care is taken that the student learns to reason from cause to effect and vice versa.

- 4a-b-c. HOME ECONOMICS.—Junior year, fall, winter and spring terms; one hour of theory per week in each term.

This includes discussions regarding the evolution of the house; homes of various peoples as affected by climate, industrial and social conditions; cost of living; divisions of income; household accounts; cash and credit systems; savings and investments.

- 5a-b. SOCIAL OBSERVANCES.—Junior year, fall and winter terms; one hour fall term, and two hours winter term.

The discussions consider the usages of good society, including manners, conversation, forms of address, introductions, entertainments, calls, etc.

- 6a-b-c. THEORY OF COOKING.—Junior year, fall, winter and spring terms; one hour fall term, one hour winter term, and one hour spring term.

The theory relates directly to the practical work done in the kitchen laboratory, and deals with processes in cooking requiring considerable skill, for example: The roasting of meats, poultry, and game; the making of salads; pastry; ice cream and other frozen desserts. The selection of meats is taught from meat charts, and by visits to meat markets.

- 7a-b-c. COOKING PRACTICUM.—Junior year, fall, winter and spring terms; two hours practicum per week throughout the year.

This work is along practical lines and is a continuation of that done in the Sophomore year, but more advanced in character. Entire meals of a simple nature are prepared and served.

- 8a-b. HOUSE FURNISHING.—Senior year, fall and winter terms; two hours theory per week fall term, and one hour per week winter term.

This study shows the relation between architecture and house

furnishings; treats of the evolution of various articles and styles of furniture from very early historical times to the present. There are discussions concerning good and poor taste in furniture as regards line, proportion, color, and decoration. As an aid to the understanding of the subject visits are made to furniture stores.

9. HOME NURSING.—Senior year, fall term; two hours theory per week.

This is designed to enable women to care intelligently for cases of sudden illness or accident, and to perform the duties of a nurse when trained service is not employed. The use of disinfectants, quarantine regulations, and precautions against the spread of disease are considered.

10. INVALID COOKERY.—Senior year, fall term; two hours practicum per week.

Various kinds of food—liquid, semi-solid, and solid—are prepared, especial care being taken that students understand the selection of foods suitable in such ordinary diseases as measles, scarlet fever, typhoid, tuberculosis, etc. The arrangement of invalid's trays, with emphasis upon daintiness in serving, forms a part of the work.

- 11a-b-c. DEMONSTRATION LECTURES.—Senior year, fall, winter and spring terms; one hour theory and two hours practicum per week throughout the year.

The students in turn deliver addresses and do practice work in cooking before an audience consisting of other members of the class, and occasionally invited guests. The main objects of the work are to develop a spirit of self-reliance, originality of thought and manner of expression, and to afford opportunity for gain in both theoretical and practical knowledge of domestic science. Each lecture is followed by a critic meeting, as a source of information and inspiration to lecturer and audience.

- 12a-b-c. THE TEACHING OF DOMESTIC SCIENCE.—Senior year, fall, winter and spring terms; one hour theory and two hours practicum throughout the year.

This course gives practice in the actual teaching of domestic science, the Senior students taking turns throughout the year in conducting classes which carry the lower grades of work in the department.

- 13a-b. HISTORY OF FOODS.—Senior year, winter and spring terms; two hours theory per week both terms.

The work includes, in addition to the study of foods from a historical viewpoint, the evolution of recipes and proportions, and a comparative study of American and foreign cookery.

- 14a-b. ADVANCED COOKING.—Senior year, winter and spring terms; two hours practicum per week both terms.

Practice work in advanced cooking trains students in the preparation of many of the best dishes of foreign origin, thus relating directly to the study of History of Foods. The finer branches of American cookery are also considered mainly with a view of enabling students to meet the requirements of adult classes; and to cater for entertainments.

15. SCHOOL EQUIPMENT.—Senior year, spring term; two hours theory per week.

The course in school equipment embraces discussions on the location, and size of room, furniture and fittings, as well as utensils, advisable for the teaching of domestic science. Features particularly emphasized are suitability, durability, and economy in buying.

16. CHEMISTRY OF FOODS.—Senior year, spring term; four hours practicum per week.

In this course previous work done in the chemical laboratory is applied to the study of food materials. The effects of heat and other physical and chemical changes are noted; also chemical composition and digestibility; and the detection of adulterations.

17. HOUSEHOLD MANAGEMENT.—Senior year, spring term; two hours theory per week.

Household management includes consideration of the various ways in which the housekeeper's time, strength, and money may be used to the best advantage; methods of simplifying housework; necessities versus luxuries in furnishings, clothing, food, domestic service.

Department of Domestic Arts

REBECCA P. ACHESON-BOOTH, *Professor*

SUSIE E. CAGE, *Assistant*

This department will occupy the east wing of the first floor of the new Woman's Building and will include several well equipped sewing rooms, a fitting room, rest room, and lockers. The equipment of the classrooms consists of one large cutting table, sewing tables, six sewing machines of different makes, large mirrors for use in dress fitting, an electric iron for pressing, an electric heating plate for use in millinery class, drafting charts, and illustrative material such as cotton, silk, and flax fibers, and many others from all over the world; a sequence of the manufacture of

needles, shears, sewing cotton, sewing silk, and linen thread for use in the study of textiles.

This department aims to meet the needs of two classes of students, viz: First, students in the regular courses of the College who desire a knowledge of general principles and facts of household arts and sewing, as a preparation for home life. Second, students who desire to specialize with a view to becoming teachers of domestic arts.

Every effort is made to give each student the opportunity to develop both latent and evident capacities thus enabling the choice of an occupation that will return to the worker and to society the largest measure of satisfaction and benefit.

In this College emphasis is laid upon the artistic and practical side of technical work; therefore design and utility are made equal to excellence of technique. A regular alternative is maintained in the routine of classes between instruction that insists on mechanical accuracy and instruction that encourages freedom of line, form, and color of expression.

The courses in sewing have a two-fold purpose, the first being to present a systematic, well-developed course of instruction that shall develop skill on the part of the student. The second purpose is professional, being to give a content from which courses of study may be organized and show the development of the subject matter, its teaching possibilities, methods of presentation and class management. The complete course includes model sewing, plain sewing, dressmaking, and art needlework.

SUBJECTS

- 1a. MODEL SEWING.—Freshman year, fall term; two hours practicum per week.

Includes a course in making models of the stitches to be used in plain sewing and their application to seams, etc.

- 1b. PLAIN SEWING.—Freshman year, winter term; two hours practicum per week.

Includes the drafting of patterns for simple underwear and making of plain garments in underwear.

- 1c. MACHINE SEWING.—Freshman year, spring term; two hours practicum.

This term is a continuation of the previous terms and includes practice in machine sewing, use of attachments and making of either a dressing sacque or a kimono, and a white petticoat or a nightgown.

- 2a. MILLINERY.—Sophomore year, fall term; two hours practicum per week.

Model work of the various finishes for brims, facings, folds, shirrings, lining, etc.

- 2b. MILLINERY.—Sophomore year, winter term; two hours practicum per week.

This term includes the drafting of patterns for shapes to be made up in buckram, and the covering and trimming of a model winter hat.

- 2c. MILLINERY.—Sophomore year, spring term; two hours practicum per week.

This term includes spring millinery, a study of styles, discussion of materials, remodeling of old hats, wire frame making, covering, sewing straw, and finishing summer hats.

- 3a. BASKETRY.—Freshman year, fall term; two hours practicum per week.

A course of instruction in simple cord and raffia work, including sewed baskets, over soft coil and reed coil. Designs adapted to the form are studied and applied.

- 3b. BASKETRY.—Freshman year, winter term; two hours practicum per week.

Reed baskets are woven and the course includes other simple problems in basketry which can be applied in grade teaching.

- 4a-b. TEXTILES.—Sophomore year, winter and spring terms; one hour theory per week.

The purpose of this course is to give a practical understanding of the various animal and vegetable fibers and processes of their preparation for manufacture; their value in the commercial world; their utility and value for textile fabrics. This course leads to training in good judgment and taste in selection of proper and suitable wearing apparel. It includes the study of the art of weaving, development of spinning, and modern processes of manufacturing, its economic value and the effect upon social conditions.

5. HISTORY OF COSTUME.—Sophomore year, spring term; one hour theory per week.

This course offers a study of the History of Costumes, covering dress of the primitive people and of early medieval and modern ages; of the folk costumes of various countries, including strange customs in which dress forms an important part. It takes up the hygienic side of costume of modern day, pointing out harmful as well as useful features of present styles.

6. DRAFTING.—Junior year, fall term; two hours practicum per week.

Drafting flat paper patterns to individual measurements. Charts are the property of the College.

7. CUTTING AND FITTING.—Junior year, winter term; two hours practicum per week.

This includes the application of certain of the patterns of the previous term, and the making of a fitted cambric pattern, and making a simple wash dress, without a lining.

8. DRESSMAKING.—Junior year, spring term; two hours practicum per week.

The purpose here is to teach the art of dressmaking; the study of line, proportion, color, and adaptation of material; to develop neatness, accuracy, self-reliance, originality, and a high ideal of work. This term includes the making of a tailored shirt waist, plain tailored skirt and a simple summer dress.

NOTE.—Shirt Waist: Tailored shirt waist designed and cut to individual measurements; particular attention is given to sleeve, placket, cuff, collar and finishing. Skirt: Five, seven and nine-gored skirt patterns are studied with view to their desirable and practical value and application.

Summer dresses of Batiste, lawn, dimity, or other thin materials made in prevailing practical style suitable to the wearer.

9. ADVANCED HANDWORK.—Senior year, fall term; two hours practicum per week.

Art needlework is taught, including simple stitches in embroidery, and its application to doilies, towels, center pieces, and embroidered underwear.

- 10a. FINE NEEDLEWORK.—Senior year, winter term; two hours practicum per week.

Includes the making of fine French lingerie.

- 10b. FINE NEEDLEWORK.—Senior year, spring term; four hours practicum per week.

Includes the making of an evening dress and a fancy wash dress for commencement.

- 11a. MODEL SEWING.—Sophomore year, fall term; one hour theory per week.

The purpose of this course is to give the girls who intend teaching sewing a theoretical and practical understanding of the subject, introducing sewing models and methods of teaching.

- 11b. MODEL SEWING.—Sophomore year, winter term; one hour theory per week.

(Mrs. Woolman's Model Book used as text.)

- 12a. THEORY OF SEWING.—Senior year, fall term; one hour theory per week.

This course includes lectures on methods of teaching, and planning a lesson or series of lessons in Domestic Arts.

- 12b. THEORY OF SEWING.—Senior year, spring term; one hour theory per week.

This course is a continuation of 12a and includes practice teaching.

Department of Drawing and Art Work

ADA HAHN, *Instructor*

The aim of the course in this department is to give a training that is necessary for use in the practicum subjects of the College. In the Freshman year the drawing is so planned as to afford the same work for all students in courses where drawing is taken, giving only the elementary principles and their application in matters of everyday life.

In the Normal Course it is planned for further study of teaching drawing in the eight grades of the elementary schools. In the Domestic Science and Arts the principles of space, art and color harmony related to their use in interiors and exterior decorations of homes and costumes. The object of the work is to develop an appreciation of good form and color and to enable the student to exercise a more intelligent and sensitive discrimination in their use. Emphasis is laid upon simplicity but well-chosen and inexpensive decoration.

SUBJECTS

- 1a. ELEMENTARY DRAWING.—Freshman year, fall term; four hours practicum.

An elementary course designed for the development of graphic expression with special reference to the needs of engineers for freehand sketching of machinery; agriculturists in the study of plants and animals; teachers in the grades of public schools; domestic science and arts students the study of space-art and color applicable for homes and dress; architects in space-art and elementary color; and its use in applied science. Required of all Freshmen.

- 1b. OBJECT DRAWING AND SKETCHING.—Freshman year, winter term; four hours practicum.

Further study of perspective, principles of representation of light and shadow, drawing from still-life, study of comparative proportions of parts and beauty of form related to common objects of practical use. Required of Freshmen women of Teachers' Normal Course; Science and Literature Course and Domestic Science and Arts Divisions.

- 1c. ELEMENTARY DESIGN.—Freshman year, spring term; two hours practicum.

Making of designs from spring blossoms and plant forms for motif and their application to various materials. The principles of order, as expressed by balance, rythm and harmony are considered and worked out. Required of women (only) of Science and Literature, and of Teachers' Normal and Domestic Science and Arts students.

- 2a. COMPOSITION.—Sophomore year, fall term; two hours practicum and one hour of theory.

Dark and light with special reference to decorative usages in applied art. The theory of line, dark-and-light, are studied in their various relations of proportion, subordination rythm and tone values. Required of Sophomore Domestic Science and Art students.

- 2b. COLOR THEORY.—Sophomore year, winter term; two hours practicum and one of theory.

Continuation of 2a, with a study of special problems in color harmonies. Theory of the problems. Required of Domestic Science and Art students.

- 2c. APPLIED DESIGN.—Sophomore year, spring term; two hours practicum and one of theory.

Special problems in applied design for use in Domestic Science and Arts students. Theory of color and line for these problems.

- 3a. CASTS.—Junior year, winter term; two hours practicum and two hours of theory.

Drawing from casts to develop accuracy of drawing; modeling in clay for wood-carving; theory of design for various materials. Domestic Science and Art students.

- 3b. APPLIED ARTS.—Junior year, spring term; two hours practicum and one of theory.

Application of original designs and color harmonies for costume and home art. For furnishings, metal textiles, embroidery, carpets, wall decorations, and interiors, use of stencils and block painting. Required of Domestic Science and Art students.

- 4a-b. WOOD CARVING.—Junior year, winter and spring terms; two hours practicum.

The work is considered throughout with reference to its use as a decorative element in construction and the execution of projects for decoration. Required of Domestic Science and Art students.

5. TEACHING OF DRAWING.—Sophomore year, spring term; two hours practicum.

This course deals with the teaching of drawing in the eight grades of the elementary schools. Illustrative work forms so large a part of modern educational methods it necessitates good drawing and this course is planned to meet the needs of grade teachers. The following divisions will be studied: 1. Technique. 2. A pedagogical view of the subject. 3. Selection of materials. 4. The special purpose of teaching of drawing and general methods of presentation. Required of Sophomores, Teachers' Normal students.

6. STUDIO WORK.—Elective. Hours arranged by the instructor. No fee for instruction and no credit given.

Opportunity is given for special work in design, tooled leather, clay or wax modeling, pottery, pen and ink sketching, drawing, pastel, stenciling and block painting.

SCIENCE AND LITERATURE DIVISION

W. W. JOHNSTON, *Dean*

The College has for some time maintained a "General Science" and a "Science and Literature" Course. Recently the various courses of study comprehended under these two titles have been thoroughly revised, considerably augmented, and recombined as the *Science and Literature Division*.

The subjects of the Science and Literature Division are taught by the following departments:

- The Department of Zoology and Veterinary Science.
- The Department of English and Public Speaking.
- The Department of German and Latin.
- The Department of Mathematics and Astronomy.
- The Department of Chemistry, Metallurgy, and Mineralogy.
- The Department of Political Economy and Social Science.
- The Department of Mechanical Engineering.
- The Department of Electrical Engineering.
- The Department of Civil Engineering.
- The Department of Architectural Engineering.
- The Department of Horticulture and Botany.
- The Department of Domestic Science.
- The Department of Domestic Arts.
- The Department of Agronomy.
- The Department of Animal Husbandry.
- The Department of Music.
- The Department of Entomology.
- The Department of Pedagogy and History.

THE ELECTIVE SYSTEM

From the tabulated statement which follows, it will be noted that after the Sophomore year much freedom of election is offered. By a wise exercise of this freedom a student can obtain

not only a broad general education, but also a large degree of specialization in any of the departments included.

RELATION TO OTHER DIVISIONS

Besides the instruction given to students taking the Science and Literature Course, the instructional force of this division gives much of the collateral work taken by students in the other divisions. Conversely, among the courses offered to students of this division are many from the various departments of the other divisions. For example, a student who wishes to specialize in one of the departments of the Science and Literature Division may elect a considerable amount of work in agriculture, in pedagogy, or in domestic science and art. The feature of the work is in accord with recent education development, and enables the earnest student to prepare himself or herself for the specific work to which opportunity and inclination call.

EQUIPMENT

The Science and Literature Division is well equipped for its work. Besides its large teaching force, it has the books, maps, instruments, apparatus, specimens, charts and materials needed by its several departments. For further information concerning the equipment and the work offered see the announcements of the various departments following the outline of courses.

Outline of Courses in Science and Literature Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and indicate the first (a), second (b), or third (c) term's work in the same subject. The name in parentheses is the specific name of the subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken. Students must take, including electives, at least eighteen hours work per week and not more than twenty-three hours, without special permission. Junior electives are open to Seniors and Senior electives are open to Juniors, upon approval of adviser and head of department concerned.

FRESHMAN YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 1a.....4	English 1b.....4	English 1c.....4
Mathematics 1a.....5 (Algebra)	Mathematics 1b.....4 (Algebra)	Mathematics 2c.....5 (Solid Geometry)
Mathematics 2a.....4 (Plane Geometry)	Mathematics 2b.....5 (Plane Geometry)	Physics 1.....4 (2) (Ele. Physics)
History 1a.....4 (Ancient History)	History 1b.....4 (Medieval History)	Mathematics 1c.....3 (Algebra)
Animal Hus. 1a (Men) (2) (Stock Judging)	Animal Hus. 1b (Men) (2) (Stock Judging)	or Botany 1.....3 (4) (Ele. Botany)
Drawing 1a..... (4) (Ele. Drawing)	Engineering 1 (Men) (4) (Woodwork)	Domestic Arts 1c (Women) (4) (Sewing)
Domestic Arts 1a (Women) (2) (Sewing)	Drawing 1b (Women) (4) (Object Drawing)	Pub. Speaking 1c... (2)
Domestic Arts 3a (Women) (2) (Basketry)	Domestic Arts 1b (Women) (2) (Sewing)	
Public Speaking 1a... (2)	Domestic Arts 3b (Women) (2) (Basketry)	
	Pub. Speaking 1b.. (2)	

SOPHOMORE YEAR

FALL TERM	WINTER TERM	SPRING TERM
English 2a.....4	English 2b.....4	English 2c.....4
Chemistry 1a.....3 (4) (Inorganic Chem.)	Chemistry 1b.....3 (4) (Inorganic Chem.)	Chemistry 1c.....3 (4) (Inorganic Chem.)
German 1a.....4 (Beginners' Course)	German 1b.....4 (Beginners' Course)	German 1c.....4 (Beginners' Course)
Zoology 1.....3 (4) (General Zoology)	History 2.....4 (English History)	History 3.....4 (American History)

SOPHOMORE ELECTIVES

Mathematics 3.....5 (Trigonometry)	Mathematics 4a.....3 (Analytic Geom.)	Mathematics 4b.....3 (Analytic Geom.)
History 1c.....4 (Modern History)	Agronomy 1a.....4 (2) (Cecology)	Mathematics 5.....4 (Astronomy)
Music2 (4)	Music2 (4)	Music2 (4)
Latin 1a.....5 (Caesar)	Latin 1b.....5 (Caesar)	Latin 1c.....5 (Caesar)
Botany 1b.....2 (4) (Syst. Botany)	Domestic Sci. 1a.....1 (Hygiene)	Domestic Sci. 1b.....1 (Sanitation)
	Domestic Sci. 2a.....1 (Theory of Cook.)	Domestic Sci. 2b.....1 (Theory of Cook.)
	Domestic Sci. 3a... (4) (Cooking Practicum)	Domestic Sci. 3b... (4) (Cooking Practicum)
		Drawing 5.....2 (Teach. of Draw.)

JUNIOR YEAR

FALL TERM

English 3.....5
(Plays of Shake.)
or German 2a.....5
(Adv. Reading)

SPRING TERM

English 4a.....5
(18th Cent. Lit.)
or German 2b.....5
(Adv. Reading)

WINTER TERM

Zoology 3.....2 (4)
(General Biology)
English 4b.....5
(18th Cent. Lit.)
or German 2c.....5
(Adv. Reading)

JUNIOR ELECTIVES

One science subject must be elected fall and winter terms.

Physics 2.....3 (2)
(Sound and Light)
Botany 2.....3 (4)
(Plant Physiology)
Chemistry 2.....3 (4)
(Adv. Inor. Chem.)
Physiology 1.....3 (4)
(Adv. Physiology)
Domestic Sci. 5a.....1
(Social Observ.)
Domestic Sci. 6a.....1
(Theory of Cook.)
Domestic Sci. 7a.....(2)
(Cooking Prac.)
Domestic Arts 6.....(2)
(Drafting)
Music.....2 (4)
Latin 2a.....5
(Cicero)
Social Science 2.....4
(Prin. of Pol. Econ.)
Mathematics 6a.....4
(Calculus)
English 3.....5
(Plays of Shake.)
German 2a.....5
(Adv. Reading)
Pedagogy 1.....5
(Psychology)
Public Speaking 2.....(2)
(Vocal Expression)

Physics 3.....3
(Elec. & Magnet.)
Botany 3.....2 (1)
(Plant Physiology)
Chemistry 7.....2 (4)
(Intro. Organ. Chem.)
Domestic Sci. 5b.....1
(Social Observ.)
Domestic Sci. 6b.....1
(Theory of Cook.)
Domestic Sci. 7b.....(2)
(Cooking Prac.)
Domestic Arts 7.....(2)
(Cutting & Fitting)
Music.....2 (4)
Latin 2b.....5
(Ovid)
Social Science 3.....4
(Indus. Combina.)
Mathematics 6b.....4
(Calculus)
English 4a.....5
(18th Cent. Lit.)
German 2b.....5
(Adv. Reading)
Pedagogy 2.....5
(History of Ed.)
Zoology 2.....3 (4)
(Histology)
Pub. Speaking 3.....1 (2)
(Debating)

Botany 4.....2 (4)
(Plant Pathology)
Chemistry 10.....5
(Agri. Chem.)
Chemistry 14.....3 (4)
(Analy. Chem.)
Domestic Sci. 6c.....1
(Theory of Cook.)
Domestic Sci. 7c.....(2)
(Cooking Prac.)
Domestic Arts 8.....4
(Dressmaking)
Music.....2 (4)
Latin 2c.....5
(Virgil)
Social Science 4.....4
(Agri. Economics)
Mathematics 6c.....4
(Calculus)
English 4b.....5
(18th Cent. Lit.)
German 2c.....5
(Adv. Reading)
Pedagogy 3.....5
(Methods & Man.)
Civil Engin. 1a.....(4)
(Surveying)
Mathematics 5.....4
(Astronomy)
Entomology 2.....2 (2)
(Household Entom.)
Entomology 1.....3 (4)
(Ele. Entomology)
Pub. Speaking 4.....1 (2)
(Public Address)

SENIOR ELECTIVES

FALL TERM

Social Science 1.....4
(Com. Usages)
Bacteriology 1.....3 (4)
(Gen. Bacteriology)
Botany 6.....3 (2)
(Spec. Sys. Botany)
English 5.....5
(Tennyson)
German 3a.....4
(Masterpieces)
Latin 3a.....5
(Livy)
Music.....2 (4)
Chemistry 8a.....2 (6)
(Adv. Org. Chem.)
Social Science 5.....(4)
(Prin. of Sociology)
Entomology 3.....3 (4)
(Economic Entom.)
Mathematics 7.....3
(Differ. Equations)
Pedagogy 6.....2
(High School Teaching)
Chemistry 15.....3 (4)
(Phys. Chem.)

WINTER TERM

Bacteriology 2.....2 (4)
(Agri. Bacteriology)
Botany 8.....3 (2)
(Plant Morphology)
English 6.....5
(Romantic Move.)
German 3b.....4
(Masterpieces)
Latin 3b.....5
(Horace)
Music.....2 (4)
Chemistry 8b.....2 (6)
(Adv. Org. Chem.)
Social Science 6.....4
(American Citizen.)
Zoology 4.....2 (4)
(Embryology)
Entomology 4.....3 (4)
(Biological Entom.)
Pedagogy 7.....2
(High School Administration)

SPRING TERM

Bacteriology 3.....2 (4)
(Technical Bacter.)
Botany 9.....3 (4)
(Plant Morphology)
English 7.....5
(Carlyle & Ruskin)
German 3c.....4
(Masterpieces)
Latin 3c.....5
(Catullus)
Music.....2 (4)
Social Science 8.....1
(Government)
Entomology 5.....3 (4)
(Scientific Entom.)
Horticulture 3.....2 (2)
(Forestry)
Pedagogy 8.....2
(School Supervision)
Chemistry 5.....2 (6)
(Indus. Chem.)
Social Science 7.....4
(Ind. Hist. of U. S.)

Department of Zoology and Veterinary Medicine

L. L. LEWIS, *Professor*
C. H. McELROY, *Assistant*
W. S. ROBBINS, *Assistant*

The Department of Zoology and Veterinary Medicine occupies quarters in the Library Building. The equipment consists of twenty-two Zeiss and Leitz microscopes with oil immersion lenses, microtomes, dissecting instruments and cameras. The department is also well supplied with dissectable models of various animals, including an Azoux model of the horse, skeletons and charts for lecture room work. A good working collection of museum specimens are at hand for work in zoology, veterinary medicine, etc. For the work in physiology there are skeletons of the human body, manikins, charts, models, etc. The following work is offered by the department in the regular College courses:

SUBJECTS

VETERINARY MEDICINE

1. ANATOMY.—Junior year, winter term; two lectures and two practicum periods per week.

This subject is offered to students in the animal husbandry course and includes a brief study of the anatomy of the horse. One or more dissections will be made during the term.

2. ANIMAL PARASITES.—Senior year, fall term; two recitations per week.

This course will be a continuation of the work in zoology for the students in the Agricultural Division. The work is designed to cover the general subject of controlling and treating parasitic diseases.

3. MATERIA MEDICA.—Senior year, winter term; three recitation periods per week.

The work is designed especially for agricultural students.

4. VETERINARY MEDICINE.—Senior year, spring term; two lectures and one practicum period per week.

This work is given to students in the animal husbandry course. It follows the work in bacteriology and special attention is given to infectious and contagious diseases.

PHYSIOLOGY

1. **ADVANCED PHYSIOLOGY.**—Junior year, fall term; three recitations and two laboratory periods per week.

This course is required of students in the Agricultural and Domestic Science Divisions and is elective for the students in the Science and Literature and Normal Divisions. Particular attention is given to the physiology of nutrition. Laboratory work will include microscopic examinations of body fluids, digestion experiments, etc. Elementary Physiology and Chemistry are necessary prerequisites for this course.

ZOOLOGY

1. **GENERAL ZOOLOGY.**—Sophomore year, fall term; three recitations and two laboratory periods per week.

This course is given in fall term of the Sophomore year to students in the Science and Literature, Normal and Agricultural Divisions. The instruction given covers the general principles of the science and serves as an introduction to more advanced work in biology.

2. **HISTOLOGY.**—Junior year, winter term; three recitations and two laboratory periods per week.

The work is elective for Science and Normal students.

3. **GENERAL BIOLOGY.**—Junior year, spring term; two recitations and two laboratory periods per week.

This course is required of science and literature students and may be elected by normal course students. The work includes a general study of the problems of organic evolution, heredity, variation, etc. A brief review will be made of the work of the men most prominently connected with the development of biological sciences.

4. **EMBRYOLOGY.**—Senior year, winter term; two lectures and two laboratory periods per week.

This course is required in the Domestic Science and Arts Division and elective in the Normal and Science and Literature Divisions. A study of the development of vertebrates will be made using the chick as laboratory material. The best laboratory technique will be followed in making serial sections and in reconstruction work.

BACTERIOLOGY

1. **GENERAL BACTERIOLOGY.**—Senior year, fall term; three recitations and two laboratory periods per week.

Bacteriology is required of Agricultural and Domestic Science and

Art students and is elective for Normal and Science and Literature students. The course covers the general principles of the science and enables the student to comprehend the importance of bacteria as related to disease, their economy in nature and to the various industries. This work is prerequisite to any work in bacteriology during the winter and spring terms.

2. AGRICULTURAL BACTERIOLOGY.—Senior year, winter term; two recitations and two laboratory periods per week.

The work is elective and will include studies of the relation of bacteria to agriculture and to many of the industrial processes. A brief study is made of the action and properties of enzymes.

3. TECHNICAL BACTERIOLOGY.—Senior year, spring term; two recitations and two laboratory periods per week.

This course is open to students desiring to familiarize themselves with particular problems in the subject. Individual preference of the study will be given consideration in outlining the work.

Department of Chemistry

HARDEE CHAMBLISS, *Professor*

L. H. ROSE, *Assistant Professor*

RALPH MCBURNEY, *Assistant*

E. B. ROBBINS, *Graduate Assistant*

The Chemistry Course as a whole is designed to give the student considerable familiarity with carefully selected chemical facts, and upon these facts as a basis to build up his conceptions of the principles, theories, and laws which underlie the chemical science of today. That he may better appreciate the value of the subject to mankind in the past and present, some attention is paid to the history of the subject and to the modern applications in the arts and manufactures. That he may be able to read current chemical literature intelligently and thereby "keep up with the times", the most modern theories are presented in simple form.

Furthermore, in as much as nearly every practical chemist begins as an analyst and many make analysis their life work, great stress is laid on analytical training. The art of quantitative analysis is taken up after a thorough drill in the practical side of quantitative work. It is the policy of the department to have its graduates well drilled in the scientific side of analytical chemistry, both qualitative and quantitative, and the operations involved in the actual analysis of a variety of substances are carefully supervised by the instructors.

This department occupies the entire Chemistry Building, which consists of two stories, basement and attic. One of the large, bright rooms on the first floor is fitted up for lectures and recitations. There is a lecture table conveniently equipped and arranged for demonstration and observation. The supply of apparatus and chemicals is quite extensive, and the student's interest in the subject is first aroused then encouraged and stimulated. The lecture room has a seating capacity of over one hundred. The remainder of the first floor is taken up with laboratories and balance rooms for quantitative work.

On the second floor there are three laboratories for introductory work (Course 1a-b-c). Each of these laboratories will accommodate twenty-four students at a time, and a central store room opens into all three laboratories. During the laboratory period there is an instructor in each laboratory and an advanced student in the store room. This arrangement has proved very efficient for laboratory instruction. All desks are so equipped with bottles of reagents and with apparatus as to minimize the loss of time incident to a student leaving his desk for these articles; and even in the case of more expensive instruments, materials and models for advanced students, every effort is made to keep on hand a supply that will meet all reasonable demands and prevent serious loss of time and enthusiasm on the part of the student. There is also a large, bright classroom on the second floor.

In the attic there are the general store rooms for apparatus and chemicals. These communicate with and supply the special store rooms and laboratories below by means of an elevator.

The building is heated by steam, and the gas for light and experimental use comes from a Tirrill equalizing gas machine in the basement. The basement of the building contains storerooms and assay room, and affords some space for growth of the department.

As elsewhere stated, Sophomores are required to pay a nominal fee of \$2.00 per term for chemicals. This fee for Juniors and Seniors is \$1.50 per laboratory course for each term. None of the above deposits are returnable, but a contingent fee of \$3.00 per term is required of all students taking laboratory work.

any kind in the department. This fee is returnable wholly or in part according to the amount of deterioration, damage, or loss which the departmental equipment may suffer from its use by the student. In cases of excessive damage or loss the student will be expected to pay accordingly.

In general it may be said that it is the policy of the department to maintain at all times those conditions which promote orderly and serious work, and which cultivate a pleasureable interest in scientific experimentation.

The courses offered by the department may be divided into four classes:

1. The General Elementary Course taken by all Sophomores.
2. The Second Year Chemistry, required of students of Agriculture in the Junior Year.
3. The Second Year Chemistry, required of students of Domestic Science and Arts in the Junior Year.
4. Courses for those who elect Chemistry during the Junior and Senior Years with a view to becoming analysts, research assistants or teachers of Chemistry.

1a-b-c. ELEMENTARY INORGANIC CHEMISTRY.—Sophomore year, fall, winter and spring terms. The work will consist of three recitations and four hours of laboratory work per week.

This is the beginners' course and constitutes the foundation of all subsequent work in chemistry. Furthermore, in as much as the course is required of all students taking the regular collegiate course it is designed to cultivate the student's powers of manipulation, observation and logical reasoning. The established facts of chemical science and their relation to the more important chemical industries, and to everyday life, and the relation between these facts and the laws and theories of modern chemistry are presented in simple form. Courses 1a and 1b are prerequisite to 1c. Physics I, prerequisite to Chemistry 1a.

2. ADVANCED INORGANIC CHEMISTRY.—Junior year, fall term; three classroom periods and four hours of laboratory work per week.

The object of this course is to broaden and deepen the foundation laid in the Sophomore course (1a-b-c). All of the fundamental facts, principles, laws, and theories are reviewed and amplified. Chemical arithmetic and structural formulae are taken up, the former as a drill in principles and the latter as a preparation for the study of organic chemistry. In the laboratory typical inorganic compounds are prepared and studied, both as to their physical and chemical properties. Prerequisite, Chemistry 1a-b-c.

4. HOUSEHOLD CHEMISTRY.—Junior year, winter term; two classroom periods per week; no laboratory work.

Intended primarily for the students of Domestic Science and Arts that they may acquire some knowledge of the chemical changes involved in cooking, cleaning, etc. Prerequisite, Chemistry 1a-b-c.

5. INDUSTRIAL CHEMISTRY.—Senior year, winter term; three classroom periods and four hours of laboratory work per week.

The purpose of this course is to give in some detail the description of a few of the more important processes for manufacturing inorganic chemical products. Some familiarity with patent literature in general will be features of this course. The laboratory work accompanying will consist chiefly of advanced quantitative analysis. Prerequisites, Chemistry 2, 7, and 8a-b.

7. ORGANIC CHEMISTRY (Introductory).— Junior year, winter term; two classroom periods and four hours of laboratory work per week.

A brief introduction to the study of organic chemistry, which is followed by more advanced work in the fall and winter terms of the Senior year. In this course the principal homologous series of hydrocarbons, alcohols, aldehydes, etc., are taken up. It is intended to give the student well defined ideas concerning the characteristics of carbon which distinguishes it from other elements, and to emphasize those nitrogen derivatives of the hydrocarbons which play an important part in the economy of nature,—i. e., in fertilizers, foods, etc. The laboratory work will consist of experimental study of the preparation and properties of some typical organic compounds. Prerequisites, Chemistry 1a-b-c and 2. 8a-b.

10. AGRICULTURAL CHEMISTRY.—Junior year, spring term; five classroom periods per week.

This course is intended primarily for agricultural students, but is elective to others. Its object is to study the chemical side of soils and of the atmosphere in their relation to plant life. Special attention is paid to fertilizers and their relation to different kinds of soils and to different varieties of crops. Prerequisites, Chemistry 7.

14. ANALYTICAL CHEMISTRY.—Junior year, spring term; three

classroom periods and four hours of laboratory work per week.

A careful consideration of the scientific foundations which underlie analytical chemistry, both qualitative and quantitative, is essential to proper training in these branches. This course is designed to give this training, and the application of the principles taught in this course is insisted upon in all the analytical work which follows. The laboratory work is elementary quantitative analysis. Prerequisite, Chemistry 2.

15. **PHYSICAL CHEMISTRY.**—Senior year, fall term; three classroom periods and four hours of laboratory work per week.

In this course the object is to give the student a working knowledge of that field of chemistry which is so modern and which is being so rapidly developed. The applications of the principles of physical chemistry to the facts of inorganic and organic chemistry are dwelt upon in some detail. The laboratory work will be qualitative analysis. Prerequisite, Chemistry 14.

- 8a-b. **ORGANIC CHEMISTRY.**—Senior year, fall and winter terms; three classroom periods and four hours of laboratory work per week.

The oxygen, sulphur, nitrogen, phosphorus and other derivatives of aliphatic and carbacylic hydrocarbons are studied as fully as the time permits. The laboratory work consists of qualitative analysis. Prerequisites, Chemistry 2, 7, and 14.

The Department of Entomology

C. E. SANBORN, *Professor*

A. L. LOVETT, *Assistant*

This department occupies quarters in Morrill Hall. These quarters consist of an office and station laboratory, a lecture room for class use, and a student laboratory.

The equipment includes ten compound microscopes, consisting of one Bausch & Lomb "Professional", three Bausch & Lomb "BB6", six Zeiss "IVA", all with eye-pieces and objectives complete. There are also two Zeiss compound demonstration and eleven Zeiss and Barnes dissecting microscopes. A full line of reagents, stains, glassware, and collecting apparatus is at the student's disposal. Models, prepared life histories, and mounted specimens of economic insects are available for observation and lecture work. Breeding cages and live boxes are provided for carrying on observation work in the laboratory and field.

SUBJECTS

1. ELEMENTARY ENTOMOLOGY.—Junior year, spring term
theory three hours, practicum four hours per week.

This course is required of students of the Agricultural Divisions and elective for those of the Science and Literature Division. Lectures and recitations on insects in general will constitute the theory. Some particular textbook will be used as a guide in theory. The student will become acquainted with the different groups of insects, and the anatomy, by studying particular types during the practicum.

2. HOUSEHOLD ENTOMOLOGY.—Junior year, spring term; lectures and recitations, two hours per week; practicum, one afternoon per week.

This work consists of a practical study of the insects of the household and practical remedies for their control. Collections of the insects are made, and practical demonstrations in how to apply remedies are given. Thus the student becomes acquainted with the insects and also the practical application of remedies for their control.

3. ECONOMIC ENTOMOLOGY.—Senior year, fall term; lectures and recitations, three hours per week; practicum, two hours per week.

This term's work is devoted to a study of our economic insects; their life histories, habits, natural enemies, and means of combatting them. Field work and observations make the student acquainted with the insects, and enable him to recognize the best time and means of combatting. Laboratory work is of a nature to acquaint him with the remedies and how applied. This work is elective in the Science and Literature and Agricultural Divisions.

4. THE BIOLOGICAL ASPECTS OF ENTOMOLOGY.—Senior year
winter term; lectures and recitations, two hours per week;
practicum, four hours per week.

This work consists of a systematic study of the biological aspects of insects. A careful study is made of anatomy and physiology of insects; their adaptations to surroundings and the relations which they bear to man. The time devoted to laboratory work is taken up in a study of the external and internal structures, the physiology of metamorphosis, and the classification of some of our economic insects. This work is elective in the Agricultural and Science and Literature Divisions.

5. SCIENTIFIC ENTOMOLOGY.—Senior year, spring term; lectures and recitations, three hours per week; laboratory work, four hours per week.

This term will be devoted to the collection and classification of Oklahoma insects and a scientific study and grouping of them. This work is elective in the Science and Literature and Agricultural Divisions.

6. HORTICULTURAL ENTOMOLOGY.—Senior year, fall term; lectures, three hours per week; laboratory work two hours per week.

A subject outlined for students taking the Horticultural course. The lectures will portray the life histories of the fruit and shade tree insect pests in such a manner that the student will become proficient in recognizing them. The practicum will enable the student to become proficient in controlling the various forms in the most practical way.

The Department of English and Public Speaking

W. W. JOHNSTON, *Professor*

H. G. SELDOMBIDGE, *Assistant*

L. F. STEWART, *Assistant*

In the last few years there has been throughout the United States a great awakening to the importance of the study of the mother tongue. In colleges, in high schools, and even in the "grades" there is a great growth of interest in the English language, the English literature, and the means of attaining force and fluency in English composition.

In accordance with the widespread movement, the English courses in the Agricultural and Mechanical College have within the last two years been considerably augmented. The work required of Freshmen has been increased from three hours to four hours throughout the year, the required Sophomore work from two hours to four hours throughout the year, the elective work in each term of the Junior year from two to five hours, and that in each term of the Senior year from four to five hours.

SUBJECTS

- 1a-b-c. Freshman year, fall, winter, and spring terms; four hours.

This course comprises (1) a study of the elementary principles of composition, (2) practice in composition, and (3) an introduction to literature. The work in each of these three subdivisions continues throughout the year. In composition, the text is used but

sparingly, the work being based chiefly upon numerous short themes and occasionally longer ones written by the members of the class. Frequent individual conferences between students and teacher are an essential part of the work. Throughout the year students must have access to an unabridged dictionary; they are urged to buy either the International, the New International, or the Standard.

2a-b-c. Sophomore year, fall, winter, and spring terms; four hours.

The work of the Sophomore year comprises (1) a brief review of English grammar, (2) the systematic study and practice of the forms of discourse, and (3) a study of some of the best English and American literature, both prose and poetry. The review of grammar extends over the first four or five weeks of the fall term, closing with a final examination upon which students must make a grade of not less than C. The remainder of the year is devoted to the study and practice of the forms of discourse and to the reading of literature. The students in English 2 are grouped in recitation sections corresponding to the course in which they are specializing, all engineering students, for example, being grouped together. This arrangement makes it possible to adapt the instruction to the specific needs of the various groups of students, and the book used as the basis of work in composition is suited to such adaptation; it is not a textbook, but a collection of specimen prose of all varieties. Throughout the year students must have access to an unabridged dictionary. In the spring term the student is given two grades, one representing his work in literature, the other his work in composition. A student who receives either an E or F in composition must enter a special class in theme-writing in the succeeding fall term. A student who fails in literature, or in both literature and composition, will make up the work in the usual way. Prerequisite, English 1.

3. THE PLAYS OF SHAKESPEARE.—Junior year, fall term; five hours.

The first half of the term is given to a careful study of two plays, the aim being to give students a knowledge of the Shakespearian vocabulary and forms of expression, and to acquaint them with the best methods of studying a Shakespearian drama. In the second half of the term several of the best comedies and tragedies are read, as well as two or three plays of less merit, which illustrate Shakespeare's genius in various stages of its development. The collateral readings include a limited amount of critical and biographical material. It is not required that students purchase other than the two plays studied during the first half of the term. In the fall of 1911 these will be *Twelfth Night* and *Hamlet*. Other plays and abundant critical and biographical materials are reserved in the College Library for the use of this class. Prerequisites, English 1 and English 2.

4a-b. MASTERPIECES OF EIGHTEENTH CENTURY LITERATURE.—Junior year, winter and spring terms; five hours.

The Eighteenth Century saw the perfection of the essay, the development of English satiric poetry and prose, the culmination of the so-called classic movement in poetry, the beginning of the romantic movement, and the rise of the English novel. Consequently the writers studied in this course are treated not only as authors, but as representatives of the life, the thought, and the resulting literary movements of the times in which they lived. The development of the English novel into definiteness of form and purpose receives particular emphasis in the spring term. Prerequisites, English 1 and English 2.

5. THE POETRY OF TENNYSON.—Senior year, fall term; five hours.

This course is designed to give students a comparatively thorough knowledge of one of the master poets of the Nineteenth Century. Because it is believed that for the great majority of those who earnestly study him, Tennyson will prove the gateway to a life-long love of all great poetry, the course in Tennyson is made to precede the course in the romantic poets (English 6), though this arrangement violates the chronological order. The College Library has recently been supplied with a considerable number of critical works purchased for the students of this course. Prerequisites, English 1 and English 2.

6. THE ROMANTIC MOVEMENT IN ENGLISH POETRY.—Senior year, winter term; five hours.

About one-third of the time is devoted to Wordsworth; the remainder to Coleridge, Byron, Shelley, and Keats. The course is supplemented by lectures and collateral readings tracing the rise and development of the romantic movement. If the student prefers, he may buy any good edition of the complete poems of each of the five poets studied. By clubbing together students have purchased a good edition of the five volumes at less than 50 cents per volume. Prerequisites, English 1 and English 2.

7. CARLYLE AND RUSKIN.—Senior year, spring term; five hours.

The assignment of work in this course varies from year to year. In the spring of 1912 the following will be studied: Carlyle's *Sartor Resartus*, Ruskin's *Selected Essays and Letters*.

PUBLIC SPEAKING

- 1a-b-c. VOCAL EXPRESSION (General Course).—Freshman year, fall, winter and spring terms; two hours of practicum per week.

This course is devoted to action of the mind, voice and body in the expression of thought and emotion. The student receives vocal training and harmonic gymnastics.

2. VOCAL EXPRESSION (Advanced Course).—Junior year, fall term; two hours of practicum per week.

The work seeks to develop the proper use of the imagination, control of the emotion, sympathetic identification and an understanding of purposes in the various forms of public address. Special emphasis is laid upon originality of thought and its value in the interpretation of literature. The voice is trained for range, flexibility and tone-color.

3. DEBATING.—Junior year, winter term; one hour of theory and two hours of practicum per week.

A practical course in the preparation and delivery of debates.

4. PUBLIC ADDRESS.—Junior year, spring term; one hour of theory and two hours of practicum per week.

A practical course in the preparation and delivery of speeches of various kinds for various occasions.

Department of Mathematics

CARL GUNDERSON, *Professor*

W. P. WEBBER, *Assistant Professor*

Z. N. HOLLER, *Assistant*

All regular College students are required to take one term of algebra and two terms of plane geometry in their Freshman year. The Engineering students take two additional terms of algebra and one of solid geometry in their Freshman year, and take up more advanced work in the Sophomore and Junior years. The Senior engineers may take differential equations as an optional course. Students in the Science and Literature and Normal Divisions may take the higher mathematics and astronomy as elective work.

SUBJECTS

- 1a. ALGEBRA.—Freshman year, fall term; five hours.

Fundamental laws and operations; simple equations; factors; powers and roots; quadratic equations; graphs. Prerequisite, Sub-Freshman Algebra.

- 1b. ALGEBRA.—Freshman year, winter term; four hours.

Algebraic fractions; ratio; variation; proportion, fractional and negative exponents. Prerequisite, Mathematics 1a.

- 1c. ALGEBRA.—Freshman year, spring term; three hours.

Variables and functions; mathematical induction and binomial

theorem; progressions; complex numbers; theory of equations; logarithms; limits; partial fraction; permutations and combinations. Prerequisites, Mathematics 1a and 1b.

- 2a. PLANE GEOMETRY.—Freshman year, fall term; four hours.
(Agricultural students take this course in the winter term.)

First six chapters of Stone-Millis' Plane Geometry. Fundamental notions; angles; perpendiculars; parallels; triangles; quadrilaterals; polygons; loci; similar triangles; concurrent lines. Prerequisite, Sub-Freshman Algebra.

- 2b. PLANE GEOMETRY.—Freshman year, winter term; five hours.
(Agricultural students take this course in the spring term.)

Continuation of 2a. The remaining six chapters. Inequality; circles; metrical relations; areas; constructions; regular polygons. Prerequisite, Mathematics 2a.

- 2c. SOLID GEOMETRY.—Freshman year, spring term; five hours.
The relations of lines and planes in space; areas of surface; volumes of solids; polyhedrons; cylinders; cones; spheres; spherical triangles and polygons. Prerequisites, Mathematics 2a and 2b.

3. TRIGONOMETRY.—Sophomore year, fall term; five hours.

The development and use of trigonometric functions; relations between the functions; logarithms; solution of triangles; application of practical problems throughout the course. Prerequisites, Mathematics 1b, 1c and 2c.

- 4a. ANALYTIC GEOMETRY.—Sophomore year, winter term; three hours.

The reference of points and lines to coordinate axes and the deduction of the equations of straight lines and of the curves of conic sections. Prerequisites, Mathematics 1c and 3.

- 4b. ANALYTIC GEOMETRY.—Sophomore year, winter term; three hours.

The general equation of the second degree; solid analytic geometry. Prerequisites, Mathematics 3 and 4a.

5. ASTRONOMY.—Sophomore year, spring term; four hours.

The celestial sphere; reference lines and astronomical measurements; the solar system; laws of motion; evolution; stars; comets; nebulae; structure of the universe. Prerequisites, Mathematics 1a and 2b.

- 6a. CALCULUS.—Junior year, fall term; four hours.

The subject is developed from the method of limits; infinitesimals; rates; maxima and minima; partial differentiation; applications. Prerequisites, Mathematics 4a and 4b.

6b. CALCULUS.—Junior year, winter term; four hours.

Continuation of Mathematics 6a and introduction to integral calculus. Prerequisites, Mathematics 4b and 6a.

6c. CALCULUS.—Junior year, spring term; four hours.

Integral calculus with application to problems in areas, volumes, center of gravity and other problems chosen from engineering life; expansion of functions. Prerequisites, Mathematics 6a and 6b.

7. DIFFERENTIAL EQUATIONS.—Senior year, fall term; three hours.

This is an elective course; it deals with the solution of those differential equations that are most important to the engineer. Prerequisites Mathematics 6b and 6c.

Department of Political Economy and Social Science

C. F. WATTS, *Professor*

It is coming to be generally recognized that our social relationships have been recently multiplied beyond our power of adequately understanding or controlling them. Travel has suddenly enlarged our horizon; markets have become world-wide; vast industrial organizations, undreamed of by the forefathers, have sprung up to control trade and commerce and shape thought itself; our standards of thought and habits of life have undergone an immense transformation in the last half century. These conditions have raised an urgent public demand for a more thorough study of the social sciences of economics, government and sociology. Both inside and outside of our colleges they are becoming increasingly important. Economics deals with the fundamental laws and facts of the business world; government is concerned with the principles and organizations by which we strive to control the great social forces and institutions of society in the interest of justice; and sociology endeavors to point out the fundamental principles of all association and social development, whereby we may hope to attain a happier social order and freer and nobler individual life. It is the aim of this department so to train the student through accurate observation, and sound and generous reasoning, in these social sciences, that he may go out from this institution to "live above the fog in public duty and in private thinking".

The equipment of the department consists of a number of excellent charts and books. The College Library contains many valuable reference works. Important volumes have recently been added and the department will continue to add others as the courses demand and the available fund permits. The textbook in each course is simply the basis for the term's work, and especially in the upper classes, considerable library reference work will be required. Lectures and student reports will supplement the courses.

SUBJECTS

1. COMMERCIAL USAGES.—Senior year, fall term; four hours.

This course includes commercial law, commercial correspondence, business methods and business organization and management. It includes the study of contracts, agency, sales, negotiable paper, bailments, common carriers, real property, deeds, mortgages, insurance and other phases of the laws of business. Agricultural students give some attention to the business aspects of farming. Engineering students devote some time to engineering contracts and the business methods of engineers.

2. PRINCIPLES OF POLITICAL ECONOMY.—Junior year, fall term; four hours.

The subject covers a careful discussion of the fundamental natural laws of production, distribution and consumption of wealth, of the labor movement in England and America, the development of capital, growth of monopoly, problems of the tariff, money, credit, banking, public finance and industrial progress.

3. INDUSTRIAL COMBINATIONS.—Junior year, winter term; four hours.

The subject takes up the conditions of the industrial revolution that have brought about our present gigantic business organizations, analyzes the methods they employ and their influence on our national life, and attempts to formulate the best means of controlling them in the interests of justice and public welfare.

4. AGRICULTURAL ECONOMICS.—Junior year, spring term; four hours.

A careful study of the special economic principles of agriculture, including the organization of the farm, conditions determining prices of agricultural products, farm rents, distribution of incomes, farm accounts, methods of acquiring land with special attention to cooperative enterprises, and the best means and methods of improving rural life.

5. PRINCIPLES OF SOCIOLOGY.—Senior year, fall term; four hours.

With a preliminary survey of the conditions of primitive life and the principles of social psychology and social organization, the course traces the development of the great human institutions of the family, the economic classes, the state, church, the school and the higher life; and concludes with special attention to the factors involved in social progress and morality.

6. THE DUTIES OF AMERICAN CITIZENSHIP.—Senior year, winter term; four hours.

With a preliminary survey of important social conditions in the United States, the course takes up the most practical methods of social betterment in respect to the family, neglected children, the working men, rural communities, public health, the great cities, the church, the great corporations and the government.

7. ECONOMIC HISTORY OF THE UNITED STATES.—Senior year, spring term; four hours.

With a preliminary survey of Hamilton's financial measures, this course traces the economic and financial history of the United States down to 1860. The work consists of classroom lectures, discussions, and student reports.

8. GOVERNMENT.—Senior year, spring term; four hours.

A study of the forms through which governments have evolved from the patriarchal monarchy through the aristocracy and the plutocracy to the ideal democracy; a discussion of the principles of democracy, of the forms and actual practices of our American National, State and local governments, their constitutional development, and their problems.

Department of German and Latin

GUSTAV F. BROEMEL, *Professor*

A three years' course is offered in both German and Latin. No previous knowledge of German is required, but students wishing to enter College Latin must have had the equivalent of the Sub-Freshman Latin.

SUBJECTS

GERMAN

- I *a-b-c*. BEGINNERS' COURSE.—Sophomore year, fall, winter and spring terms; four hours.

Mastery of inflections and of the elements of syntax. Reading of

easy narrative prose. Written and oral translation from English to German. Conversation. Especial attention is given to acquiring a correct pronunciation. Daily practice throughout the year results, with a majority of students, in an accurate and facile pronunciation.

2a-b-c. ADVANCED READING COURSE.—Junior year, fall, winter, and spring terms; four hours.

The reading of prose is continued during the fall term. Syntax is reviewed, studied more intensively, and verified by constant reference to the grammar in explanation of the text read. One hour a week will be given to conversational German based on sight reading or centered upon a selected topic for which the vocabulary has been memorized. The spring term is devoted to reading scientific German.

NOTE.—This is the course referred to as elective for Seniors of the Agricultural Division.

3a-b-c. MASTERPIECES GERMAN LITERATURE.—Senior year, fall, winter, and spring terms; four hours.

Classics and modern literary German occupy most of the time, but scientific German of difficult character is read in the spring term, and written translations from current scientific magazines are required from time to time.

LATIN

1a-b-c. CAESAR.—Sophomore year, fall, winter, and spring terms; four hours.

Five books of the Gallic War are read. Methods of translation are carefully taught until the student reaches the point where diligence alone will give mastery. Constant drill in forms, syntax and pronunciation.

2a-b-c. CICERO AND OVID.—Junior year, fall, winter and spring terms; four hours.

Six books of Cicero's orations, including the four against Catiline. Selections from Ovid's Metamorphosis. Study of the hexameter.

3a-b-c. LIVY, VIRGIL AND HORACE.—Senior year, fall, winter and spring terms; four hours.

TEACHERS' NORMAL DIVISION

The Normal Division of the Agricultural and Mechanical College assumes for its field strictly professional and technical work, and the nature of this field determines the place and value of each subject offered. The handling of every subject has the teaching purpose strictly in view, the one aim being to develop a distinctive teaching atmosphere. The literary, scientific and industrial work required of the Normal students is done in those departments of the College having special facilities and equipment for teaching these branches efficiently and with greatest economy to the prospective teacher.

The subjects of the Teachers' Normal Division are taught by the following departments:

- The Department of Pedagogy and History.
- The Department of Zoology and Veterinary Science.
- The Department of Mechanical Engineering.
- The Department of Electrical Engineering.
- The Department of Civil Engineering.
- The Department of Horticulture and Botany.
- The Department of Agronomy.
- The Department of Domestic Science.
- The Department of Dairying.
- The Department of English and Public Speaking.
- The Department of German and Latin.
- The Department of Animal Husbandry.
- The Business Department.
- The Department of Music.
- The Department of Mathematics and Astronomy.
- The Department of Chemistry, Metallurgy, and Mineralogy.
- The Department of Political Economy and Social Science.
- The Department of Entomology.

Outline of Courses in Teachers' Normal Division, Giving Subjects and Hours

The figure and letter, following the departmental name, signify the serial number of the subject and whether the term's work indicated is the first (a), second (b), or third (c) term's work in the same subject, and the figures in column at the right of the name indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken. Students must take, including electives, at least eighteen hours' work per week and not more than twenty-three hours, without special permission. Junior electives are open to Seniors and Senior electives to Juniors, upon approval of adviser and heads of departments concerned.

FRESHMAN YEAR

FALL TERM

English 1a.....	4
Mathematics 1a.....	5
(Algebra)	
Mathematics 2a.....	4
(Plane Geometry)	
History 1a.....	4
(Ancient History)	
Animal Hus. 1a	
(Men).....	(2)
(Stock Judging)	
Drawing 1a.....	(4)
(Ele. Drawing)	
Domestic Arts 1a	
(Women).....	(2)
(Sewing)	
Domestic Arts 3a	
(Women).....	(2)
(Basketry)	
Public Speaking 1a..	(2)

WINTER TERM

English 1b.....	4
Mathematics 1b.....	4
(Algebra)	
Mathematics 2b.....	5
(Plane Geometry)	
History 1b.....	4
(Medieval History)	
Animal Hus. 1b	
(Men).....	(2)
(Stock Judging)	
Drawing 1b	
(Women).....	(4)
(Object Drawing)	
Domestic Arts 1b	
(Women).....	(2)
(Sewing)	
Domestic Arts 3b	
(Women).....	(2)
(Basketry)	
Engineering 1	
(Men).....	(4)
(Woodwork)	
Pub. Speaking 1b..	(2)

SPRING TERM

English 1c.....	4
Mathematics 2c.....	5
(Solid Geometry)	
Physics 1.....	4 (2)
(Ele. Physics)	
Mathematics 1c.....	3
(Algebra)	
or Botany 1.....	3 (4)
(Ele. Botany)	
Drawing 1c.....	(2)
(Ele. Design)	
Domestic Arts 1c	
(Women).....	(2)
(Sewing)	
Pub. Speaking 1c..	(2)

SOPHOMORE YEAR

English 2a.....	4
Chemistry 1a.....	3 (4)
(Inorganic Chem.)	
Zoology 1.....	3 (4)
(General Zoology)	
Agronomy 9.....	3
(Ele. Agriculture)	

English 2b.....	4
Chemistry 1b.....	3 (4)
(Inorganic Chem.)	
History 2.....	4
(English History)	
Domestic Sci. 1a.....	1
(Hygiene)	
Domestic Sci. 2a.....	1
(Theory of Cook.)	
Domestic Sci. 3a.....	(4)
(Cooking Prac.)	

English 2c.....	4
Chemistry 1c.....	3 (4)
(Inorganic Chem.)	
History 3.....	4
(American History)	
Domestic Sci. 1b.....	1
(Sanitation)	
Domestic Sci. 2b.....	1
(Theory of Cook.)	
Domestic Sci. 3b.....	(4)
(Cooking Prac.)	

SOPHOMORE ELECTIVES

German 1a.....	4
(Beginners' Course)	
Dairying.....	3 (4)
(Farm Dairy)	
Mathematics 3.....	5
(Trigonometry)	
History 1c.....	4
(Modern History)	
Music.....	2 (4)
Latin 1a.....	4
(Caesar)	

German 1b.....	4
(Beginners' Course)	
Agronomy 2.....	3 (4)
(Soils)	
Mathematics 4a.....	3
(Analytic Geom.)	
Agronomy 10.....	4 (2)
(Geology)	
Music.....	2 (4)
Latin 1b.....	4
(Caesar)	
Domestic Arts 4.....	1
(Textiles)	

German 1c.....	4
(Beginners' Course)	
Agronomy 4.....	3 (2)
(Farm Crops)	
Mathematics 4b.....	3
(Analytic Geom.)	
Mathematics 5.....	4
(Astronomy)	
Music.....	2 (4)
Latin 1c.....	4
(Caesar)	
Drawing 5.....	2
(Teaching of Draw.)	
Horticulture 2.....	4
(Vege. Gardening)	

JUNIOR YEAR

Pedagogy 1.....5	
(Psychology)	
Music2	(4)
English 3.....5	
(Shakespeare)	

Pedagogy 2.....5	
(Hist. of Education)	
Music2	(4)
English 4a.....5	
(18th Cent. Lit.)	

Pedagogy 3.....5	
(Meth. & Manag.)	
Music2	(4)
English 4b.....5	
(18th Cent. Lit.)	

JUNIOR ELECTIVES

FALL TERM

Pedagogy 6.....2	
(H. S. Teaching)	
Botany 2.....3	(4)
(Plant Histology & Physiology)	
Chemistry 2.....3	(4)
(Adv. Inorg. Chem.)	
Physiology 1.....3	(4)
(Adv. Physiology)	
Domestic Sci. 5a.....1	
(Social Observ.)	
Domestic Sci. 6a.....1	
(Theory of Cooking)	
Domestic Sci. 7a.....2	(2)
(Cooking Practicum)	
Domestic Arts 6.....2	
(Drafting)	
Latin 2a.....5	
(Cicero)	
Social Science 2.....4	
(Prin. of Pol. Econ.)	
Mathematics 6a.....4	
(Calculus)	
German 2a.....5	
(Advanced Reading)	
Physics 2.....3	(2)
(Sound and Light)	
Dairying 1.....3	(4)
(Ele. Dairying)	
Public Speaking 2.....2	(2)
(Vocal Expression)	

WINTER TERM

Pedagogy 7.....2	
(H. S. Adminis.)	
Botany 4.....2	(2)
(Plant Pathology)	
Chemistry 7.....2	(6)
(Int. Organ. Chem.)	
Domestic Sci. 5b.....1	
(Social Observ.)	
Domestic Sci. 6b.....1	
(Theory of Cooking)	
Domestic Sci. 7b.....2	(2)
(Cooking Practicum)	
Domestic Arts 7.....2	(2)
(Cutting and Fitting)	
Latin 2b.....5	
(Cicero)	
Social Science 3.....4	
(Industrial Com.)	
Mathematics 6b.....4	
(Calculus)	
German 2b.....5	
(Adv. Reading)	
Physics 3.....3	(2)
(Elec. and Mag.)	
Agronomy 2.....3	(4)
(Soils)	
Agronomy 5.....3	(4)
(Soil Physics)	
Animal Husb. 3a.....3	
(Prin. of Breeding)	
Zoology 2.....3	(4)
(Histology)	
Pub. Speaking 3.....1	(2)
(Debating)	

SPRING TERM

Pedagogy 8.....2	
(School Supervision)	
Botany 5.....1	(6)
(Sys. Botany)	
Domestic Sci. 6c.....1	
(Theory of Cooking)	
Domestic Sci. 7c.....2	(2)
(Cooking Practicum)	
Domestic Arts 8.....4	(4)
(Dressmaking)	
Latin 2c.....5	
(Ovid)	
Social Science 4.....4	
(Agri. Economics)	
Mathematics 6c.....4	
(Calculus)	
German 2b.....5	
(Adv. Reading)	
Mathematics 5.....4	
(Astronomy)	
Civil Eng. 1a.....4	
(Surveying)	
Zoology 3.....2	(4)
(Gen. Biology)	
Agronomy 4.....4	(2)
(Farm Crops)	
Chemistry 10.....5	
(Agri. Chem.)	
Pub. Speaking 4.....1	(2)
(Public Address)	

SENIOR YEAR

Pedagogy 4.....3	(4)
(Theory & Practice)	
Public School	
Music2	

Pedagogy 5.....3	
(Philos. of Edu.)	

History 4.....3	
(Okla. History)	

SENIOR ELECTIVES

Bacteriology 1.....3	(4)
(General Bac.)	
Botany 6.....3	(4)
(Special Sys. Bot.)	
English 5.....5	
(Tennyson)	
German 3a.....4	
(Masterpieces)	
Latin 3a.....5	
(Livy)	
Social Science 1.....4	
(Com. Usages)	
Social Science 5.....4	
(Prin. of Sociology)	
Mathematics 7.....3	
(Differ. Equations)	
Music2	(4)
Entomology 3.....3	(4)
(Economic Entom.)	
Chemistry 8a.....2	(6)
(Adv. Organ. Chem.)	
Chemistry 15.....3	(4)
(Phys. Chem.)	

Bacteriology 2.....2	(4)
(Agri. Bacteriology)	
Botany 8.....2	(6)
(Plant Morphology)	
English 6.....5	
(Romantic Move.)	
German 3b.....4	
(Masterpieces)	
Latin 3b.....5	
(Virgil)	
Social Science 6.....4	
(Amer. Citizenship)	
Zoology 4.....2	(4)
(Embryology)	
Music 4.....2	(4)
Entomology 4.....2	(4)
(Biological Entom.)	
Chemistry 8b.....2	(6)
(Adv. Organ. Chem.)	
Agronomy 8a.....4	(2)
(Soil Fertility)	
Animal Husb. 7a.....4	(2)
(Live Stock Man.)	

Bacteriology 2.....2	(4)
(Tech. Bacteriology)	
Botany 9.....3	(4)
(Plant Morphology)	
English 7.....5	
(Carlyle & Ruskin)	
German 3c.....4	
(Masterpieces)	
Latin 3c.....5	
(Horace)	
Social Science 8.....4	
(Government)	
Music2	(4)
Entomology 5.....3	(4)
(Scientific Entom.)	
Chemistry 5.....2	(6)
(Industrial Chem.)	
Horticulture 3.....2	(2)
(Forestry)	
Horticulture 8.....2	(2)
(Landscape Gard.)	
Social Science 7.....4	
(Economic History)	

Department of Pedagogy and History

JOHN H. BOWERS, *Professor*

SUBJECTS

PEDAGOGY

1. PSYCHOLOGY.—Junior year, fall term; five hours per week.

The primary purpose of this course is to teach the conditons, processes and laws of mental development; and to understand the motives and forces that give rise to human conduct. The psychology of childhood and of adolescence is presented in its practical phases for the benefit of teachers. Other topics are: The relation of the body to the mental activity and development, fatigue, temperament, imitation, suggestion, appreciation, attention, association of ideas, imagination, memory, emotion, will, thinking, the laws of expression, and the relation of ideals to conduct. Students will prepare for, and verify the class discussions by reading from a number of authorities, including the following: James, Dewey, Angell, Baldwin, Tichener, Thorndike, Bowne, Judd, Wundt and Stout.

2. HISTORY OF EDUCATION.—Junior year, winter term; five hours.

The purpose of this course is to arrive at correct notions of what ought to be done in the light of what has been done. The diversity of educational ideals in different countries and the best methods for future advancement. The further aim it to create a deep interest in the lives and works of great educators as a source of inspiration and guidance.

3. METHODS AND MANAGEMENT.—Junior year, spring term; five hours.

The aim of this course is to present the general methods of learning and of teaching, followed by the special methods of teaching the different school subjects. The further aim is to study the problems of school gradation, classification, organization, and government; also that of securing the cooperation of the community, making conditions favorable for intellectual development and promoting the general welfare of the school. Students will prepare for the class discussions by reading assignments from such books as Bagley's *Educative Process*, O'Shea's *Education as Adjustment*, McMurry's *General Method*, *Method of the Recitation*, *Special Method in History*, *Special Method in Geography*, *Special Method in Elementary Sciences*, Mace's *Method in History*, Bagley's *Classroom Management*, White's *School Management*, Spencer's *Education*, Roark's *Method in Education*, and Dutton's *School Management*. Teachers completing this course will receive credit for same on teachers' certificates.

4. THEORY AND PRACTICE OF TEACHING.—Senior year, fall term; three hours theory and four hours practicum.

The theoretical part of this course deals with such topics as, the teacher before the class; conducting the recitation; training pupils to study and to think; teaching pupils the art of securing, retaining and expressing useful knowledge; and the various means of developing the several school subjects. As far as possible the practice work of this course is planned to suit the needs and promote the welfare of the individual student-teacher. In theory, the reading is done from such books as McMurry's *How to Study*, Hinsdale's *Art of Study*, Schaffer's *Thinking and Learning to Think*, Arnold's *How to teach Reading*, White's *Art of Teaching*, Thorndike's *Principles of Teaching*.

5. PHILOSOPHY OF EDUCATION.—Senior year, winter term; three hours.

This course deals with such problems as the philosophy of the learning process; educational psychology; the nature of education, its possibilities and its limitations; physical education, religious education; intellectual development; moral education; educational aims and values; education for discipline, for culture and for efficiency; individual and social education. The classroom discussions will be supplemented by readings from such works as Horne's *The Philosophy of Education*, Rosenkranz's *Philosophy of Education*, Grigg's *Moral Education*, Scott's *Social Education*, Davenport's *Education for Efficiency*, O'Shea's *Social Development and Education*, Dutton's *Social Phases of Education*, Hanus' *Educational Aims and Educational Values*, and Butler's *The Meaning of Education*.

6. HIGH SCHOOL TEACHING.—Junior year, fall term; two hours.

This course is devoted to the best methods of teaching high school subjects. General lectures will be supplemented by assigning to each individual student reading along the lines of his interests and his specialization. Some of the books so used are: Smith's *Teaching of Mathematics*; Lloyd and Bigelow's *Teaching of Biology*; Smith and Hall's *Teaching of Physics and Chemistry*; Bourne's *Teaching of History and Civics*; Carpenter, Baker and Scott's *Teaching of English*; Young's *Teaching of Mathematics*.

7. HIGH SCHOOL ADMINISTRATION.—Junior year, winter term; two hours.

This course will deal with the curriculum, the organization and the management of the high school.

8. SCHOOL SUPERVISION.—Junior year, spring term; two hours.

The work in this course is devoted to the practical problems of public school organization and administration. Some of the topics are: The course of study, teachers' meetings, securing harmony and cooperation, the relation of the several school factors,—directors, principals, teachers and students, school buildings, equipment and general educational interests. The books used are: Chancellor's *Our Schools, Their Administration and Supervision*, Roark's *Economy in Education*, Gilbert's *The School and*

Its Life, Shaw's School Hygiene, Burrage and Bailey's School Sanitation and Decoration. Whenever there is a call for work in rural school supervision, such work will be offered.

HISTORY

The study of history from the standpoint of general culture as well as that of specific educational value, is becoming increasingly appreciated. The aim of this department is to give, in so far as the limited time apportioned to it will permit, a general view of the social, economic and political development, to train the student *toward* original thinking, and to fit him for intelligently assuming the duties of citizenship.

The College Library contains many valuable reference works. The textbook in each course is the basis of the course, and some library reference work will be required. Lectures and student reports will form part of the work.

1a. ANCIENT HISTORY.—Freshman year, fall term; four hours.

The story of the careers of the great men and women of antiquity and of the rise and fall of the ancient nations and civilizations to 476 A. D., with special emphasis upon the contributions that Greece and Rome have made to modern civilization.

1b. MEDIEVAL HISTORY.—Freshman year, winter term; four hours.

The course recounts the beginnings of modern Europe out of the ruins of the ancient world; the development of the great institutions of the church, of feudalism, and of the culture and customs of the Middle Ages, to the Renaissance and the Discovery of America.

1c. MODERN HISTORY.—Sophomore year, fall term; four hours.

An outline study of the great series of revolutions, inventions, discoveries and artistic achievements since the Renaissance, that have brought into being the modern nations of Europe; with a consideration of their present national problems and their probable future.

2. ENGLISH HISTORY.—Sophomore year, winter term; four hours.

A brief survey of the rise and development of the English nation, with particular attention to the growth of the free, Anglo-Saxon forms of government, and modern democracy, and especially to the influence of the Industrial Revolution on modern life.

3. AMERICAN HISTORY.—Sophomore year, spring term; four hours.

With a brief survey of our colonial history and early struggles for independence, the course takes up a more detailed study of our later constitutional, social and political development; the growth of democracy, the struggle for the Union, the rise of the corporations, and the problems of civic justice and social welfare today.

4. HISTORY AND CONSTITUTION OF OKLAHOMA.—Senior year, spring term; three hours.

A history of the political, industrial and educational upbuilding of the Commonwealth of Oklahoma, suitable for properly informing the citizen for intelligent discharge of important civil duties, and for equipping the teacher to handle the subject successfully in the public schools.

BUSINESS DIVISION

* R. A. COVERDALE, *Principal*

S. C. BEDINGER, *Assistant*

J. C. SKILLMAN, JR., *Assistant*

All the work of the Business Department is closely associated with the high grade of class instruction given in the College Course. Students desiring this course must pass examinations in reading, spelling, penmanship, geography, United States history, grammar, and arithmetic.

Applicants may be admitted to the department without examination on satisfactory records from the eighth grade of city schools or on diplomas from common schools.

All applicants for this course must have attained the age of eighteen years.

Two courses of instruction are offered by the department ,viz :
(a) Business; (b) Stenographic.

The subjects of the Business Division are taught by the following departments :

The Department of Bookkeeping.

The Department of Stenography.

The Department of English.

The Department of Mathematics and Astronomy.

The Department of Pedagogy and History.

These courses enable many young men and women to become efficient salaried employes by providing instruction in the fundamental subjects of a general education and training them as expert accountants, stenographers and clerks.

* Resigned.

Outline of Courses in the Business Division, Giving Subjects and Hours

The figures in column at the right of name indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum period is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken.

BUSINESS COURSE

FALL TERM		WINTER TERM		SPRING TERM	
Bookkeeping	(10)	Bookkeeping	(10)	Business Practice..	(10)
Spelling	2	Spelling	2	Spelling	2
Penmanship	(3)	Penmanship	(3)	Penmanship	(3)
English	5	English	5	Business Corres.....	5
Arithmetic	5	Arithmetic	5	Rapid Calculation..	5
Commercial Law.....	5				

COURSE IN STENOGRAPHY

Shorthand Th.....	5	Dictation	(10)	Office Practice	5
Office Practice.....	5	Shorthand Th.....	5	Dictation	5
Dictation	5	Office Practice.....	5	Shorthand Th.....	5
Penmanship	(3)	Penmanship	(3)	Penmanship	(3)
Spelling	2	Spelling	2	Spelling	2
Typewriting	(10 or 15)	Typewriting	(10 or 15)	Typewriting	(10 or 15)
English	5	English	5	Bus. Corres.....	5

Students must elect up to eighteen hours per week and not more than twenty-three hours.

Business Course

The Business Course embraces bookkeeping, banking, spelling, penmanship, commercial law, commercial arithmetic, rapid calculation, English, and business correspondence. A brief description of the work follows.

SUBJECTS

BOOKKEEPING.—Ten hours practice per week.

Since the principles of bookkeeping are constant, it is the aim of the department to so thoroughly familiarize the student with these principles that he can take charge of any set of books and keep them intelligently and accurately. This course runs through three terms.

The **Introductory** work deals with elementary bookkeeping, bringing into use the ordinary books of account. Special emphasis is placed on the journal, day book, ledger, posting, closing, making financial and business statements, old style balance sheet, and trial balance. Much attention is given to writing the common business forms, such as drafts, leases, notes, checks, bills, telegrams, receipts. Students who have finished this section of the work satisfactorily are well trained bookkeepers, and are qualified to enter an office and do the work in a practical, reliable and systematic manner.

The **Advanced** work follows the Introductory in a natural and easy order. The student works out sets in corporation bookkeeping, commission and consignments, wholesale and retail, and manufacturing. In this, as well as in the Introductory, the work is designed to teach bookkeeping as it is practiced in the best business houses. In this section are illustrated loose leaf consignment sheets, impression sales book, letter copying book, daily abstract sales, charge and cash sales, card ledger; organization and management of corporations, factory costs, and accounts kept

by the voucher method. A thorough drill is also given in single entry bookkeeping.

Banking—Part I of this subject deals with: The business of a bank; different kinds of banks; bank officers and clerks; banking customs. Part II is devoted to bank accounting. Here the student performs in turn the work of receiving teller, paying teller, bookkeeper, and that of the other clerks of a bank. Part III contains a clear statement of the following subjects: Clearing house, foreign exchange, letters of credit and travelers' checks.

Actual Business—Upon completion of the Introductory and Advanced work in bookkeeping, and banking, the class is resolved into a miniature business world. Each student provides himself with the necessary books and business forms for carrying on an actual business. Each student is supplied with a cash capital sufficient to start him into business. He thereupon leases a building, buys, sells, insures, borrows money, keeps a bank account, ships goods by freight, and makes all trades possible that are common to business life. Thus imitating the business world, he puts into practice every principle of bookkeeping heretofore learned. He makes or loses money—either of which he must show on his books, and should contention arise over some dealing, may in mock trial, sue or be sued. Students in turn have charge of the bank, wholesale and commission offices.

PENMANSHIP.—Three hours practicum.

The object of the work in penmanship is fourfold: First, to secure a good position of hand and body and to secure a free and easy movement; second, to secure a knowledge of the forms of the letters; third, to secure such speed as is consistent with legibility and ease; fourth, the application of writing to other forms—especially business forms and correspondence. Stenographers and bookkeepers are required to take penmanship.

SPELLING.—Two hours theory.

All persons taking the business course must carry this subject. Thousands of positions are each year either not secured or lost on account of bad spelling. The value of spelling to the stenographer especially, is obvious. The same is almost equally true with the bookkeeper. The work in spelling is always written. Students are required to make a grade of 95 per cent on examination in the subject before securing diploma.

COMMERCIAL ARITHMETIC.—Five hours theory.

The work covered by this subject is the same as that included in any first class higher arithmetic. More than usual attention is given to the solution of problems, and to the principles of arithmetic as well. **Why** is taught as well as **how**.

RAPID CALCULATION.—Five hours practice.

A subject of vital importance to the accountant. The work of the spring term is devoted almost wholly to rapid addition, short cuts in figuring interest, and to rapid calculation generally.

COMMERCIAL LAW.—Five hours theory.

From a business standpoint, perhaps there is no subject in the course which is worth as much to the student as commercial law. This subject takes up contracts, negotiable paper, partnership, sale of chattels, interest, usury, wills, conveyances of real estate, mortgages, etc. The chief aim of this subject is to inform the student how to keep out of difficulties rather than to enable him to extricate himself after he is once involved.

ENGLISH.—Five hours theory.

The work is in general divided into three parts: Review of grammar and a thorough study of punctuation, a study of good English based upon Scott's Practical English, and a course in business letter writing. Throughout the course the primary aim is to develop the student's power of expressing himself in speech and in writing.

BUSINESS CORRESPONDENCE.—Five hours theory.

One term is devoted to the subject. The student is given a large amount of practice in writing various kinds of letters—letters of inquiry, recommendation, introduction, duns, bills, remittances, circular letters, telegrams, letters of congratulation and condolence, and so on. A careful study is given to the rules of punctuation, meaning of words, variety of expression.

Stenographic Course

Students having a good common school education may finish the course in shorthand in ten and one-half months. The success and proficiency of the student will depend entirely upon his energy, ability, and previous training. The student who devotes ten months to this work is better prepared to take up the duties of an office or an amanuensis than the student who devotes only five or six months to it. The general requirements of a competent stenographer do not consist simply of the ability to write shorthand. There must be a knowledge of composition, punctuation, capitalization, grammar, spelling, and the proper arrangement of sentences. For this reason students are required before finishing the course to pass a satisfactory examination upon the subjects named above in addition to the regular examination in shorthand and typewriting.

The course embraces shorthand, typewriting, letterpress copying, writerpressing, mimeographing, manifolding, etc., together with spelling, penmanship, and English.

SHORTHAND.

The work in stenography is divided into three parts, viz: Theory, dictation and office practice.

THEORY.—Five hours.

By shorthand theory is here meant the part of stenography devoted to phonetic spelling, sounds of the letters, principles of the system, word signs, contractions and phrases. All of this work is based on the manual—the Gregg system being the one used.

DICTATION.—Ten hours.

The work of theory and that of dictation are by no means separate and distinct, since dictation begins early in the theory work, and theory continues through dictation. However, the second division of the work is more largely dictation. During this period, much reading of shorthand is required in order to familiarize the student with forms and to increase the rapidity of reading notes. Before advancing to office practice, the student should develop sufficient ability to write from dictation at an average speed of seventy-five words a minute for a period of half an hour from new matter. He should also be able to write at the rate of one hundred words a minute for five minutes.

OFFICE PRACTICE.—Five hours.

The work is what its name implies—office practice. As far as possible the students assist in getting out College bulletins and other matter for the different departments of the College. All of the office work of the Business Department is done by the students. A proper amount of attention is given to manifolding, mimeographing, letterpress copying, and the use of the writer-press.

TYPEWRITING.—Fifteen hours first term; ten hours other terms.

The work in typewriting is necessarily closely connected with that in stenography. While the student is learning shorthand theory, he is also learning the keyboard and the use of the various parts of the typewriter. He begins by writing short words, words are followed by sentences, and these by short letters. As soon as the keyboard is mastered, the matter of transcription is taken up, and from this on, most of the time is devoted to the transcription of matter written from dictation. Through the entire course, neatness and accuracy is strongly emphasized. The touch system is used exclusively.

ENGLISH.

Same as in business course.

SPELLING AND PENMANSHIP.

Same as in business course.

Sub-Freshman Department

S. A. MARONEY, *Principal*
 ED MCCARREL, *Assistant*
 SAM GASKILL, *Assistant*
 ADA B. HOUSE, *Assistant*

The Sub-Freshman Department has for its purpose the preparation of students for entrance to the Freshman year and provide some industrial training. For entrance requirements see page 13. Following is an outline of the work given:

OUTLINE OF COURSES

The figures in column at the right of the name, indicate the number of hours per week the subject is taught, classroom hours without parentheses, practicum hours in parentheses. The practicum is two hours in length, and is equivalent to one hour classroom work in estimating number of hours per week to be taken.

FALL TERM		WINTER TERM		SPRING TERM	
English	5	English	5	English	5
Algebra	5	Algebra	5	Algebra	5
American History		Civics or Latin.....	5	Physical Geography	
or Latin.....	5	Arithmetic	4	or Latin.....	5
Physiology	4	Penmanship and		Penmanship and	
Penmanship and		Spelling	(1)	Spelling	(1)
Spelling	(1)	Etymology	(4)	Drawing	(2)
Nature Study.....	(4)	or		Woodwork	(2)
or		Drawing	(2)	Etymology	(4)
Drawing	(2)	and		or	
and		Woodwork	(2)	Nature Study.....	(4)
Woodwork	(2)				

ENGLISH.—Fall, winter and spring terms; five hours per week.

The work of the fall term comprises a comprehensive review of English grammar, together with a study of capitalization and punctuation. In this term special attention is paid to letter forms and paragraphing. The spring term is devoted to the beginning of literary study and of composition.

ALGEBRA.—Fall, winter and spring terms; five hours per week.

The main purpose of the elementary course is the solution of practical problems, rather than the construction of a purely theoretical doctrine as an end in itself. The course includes an introduction of the equation, positive and negative numbers, involved number expressions, simultaneous equations, graphic solution of problems and quadratic equations.

LATIN.—Fall, winter and spring terms; five hours per week.

Drill on the essentials of Latin grammar, acquiring of vocabulary, reading stories from Roman history, anecdotes and fables.

PHYSIOLOGY.—Winter and spring terms; four hours per week.

A thorough elementary course in physiology given in lectures

and recitations, supplemented by the use of models, skeleton and charts.

AMERICAN HISTORY.—Fall term; five hours per week.

A brief review of the colonial period, close attention to the birth and development of the nation, rise of political parties.

CIVICS.—Winter term; five hours per week.

National and State governments are taught. General civics is incidental only.

ARITHMETIC.—Winter term; four hours per week.

This is high school arithmetic. The operations and their applications are mastered. Language and the mental method of the student are objects also. Coming after one term of Algebra, use is made of equations.

ETYMOLOGY.—Winter or spring terms; four hours per week.

A study of word building by the use of prefixes, suffixes, and roots from the Latin, Greek, and Saxon elements of English. Spelling, vocabulary, and insight of language are the objects.

DRAWING AND WOODWORK.—Fall or winter and spring terms; two hours each per week.

This is freehand from models which are used in the woodwork lesson following. The articles drawn and made are preferably some useful household object as footstool, shelf bracket, or rollingpin. These lessons alternating, thus are closely correlated under the social impulse to make something useful. The drawing and woodwork each are two hours a week and are taught by the Art Department and the Engineering Department of the College. The best of results are obtainable under these conditions. Some of the classes take this through fall and spring, the others through winter and spring terms.

NATURE STUDY.—Fall or spring terms; four hours per week.

This is a practical course involving elementary physics, chemistry, botany and agriculture. It includes gardening and floriculture, taught by an expert in school gardens. Each student cultivates a small plot for himself. The work is differentiated for boys and girls. About one-third of the class takes it in the fall term and the others in the spring term.

PENMANSHIP AND SPELLING.—Fall, winter and spring terms; one hour per week.

These classes are taught by the expert penmanship teachers in the Business Department. Each student is required to take this one hour a week throughout the year.

Department of Music

JOSEPH WATSON, *Director; Instructor in Voice Culture*

MADGE BOOKS SANDERS, *Instructor in Piano*

H. D. STROTHER, *Instructor on String and Wind Instruments*

MAUD HENSHAW, *Assistant in Piano*

Music makes broad claims upon the attention of students because of its generally recognized educational value, its cultural influence on the home life of the people, and its professional claims upon the more talented students of music. The instruction in this department tends toward the musical education and training of a large portion of the student body and free instruction is offered all who desire to select music, provided satisfactory progress is made from month to month in the subject.

Students in the Music Department have access to all classes in the several departments of the College and to enhance their general culture, are required to take at least two or three studies throughout the school year, other than the work required in the regular music courses.

Accomplished musicians are always in demand as directors, singers, teachers, accompanists and organists for church, concert and public school music work. The Music Department offers earnest students the opportunity to acquire scholarly musicianship.

The following courses enable the student to obtain a comprehensive and practical knowledge of music and to acquire skill and power in interpretation. The time required for completing a course will depend upon previous preparation, the talent, ability and character of the work of each student, but all have privilege of advancing as rapidly as is consistent with good work. Students of the College will be permitted to study music only with instructors connected with the Department of Music.

COURSES IN VOICE CULTURE

ELEMENTARY.—Two lessons per week, practice with instrument one or two hours daily; vocal sight reading and ear training two hours per week.

Exercises will be given for deep breathing and breath control; for purity of production, freedom of action and blending of the registers, correct attack and resonance, pure vowel production and

distinct articulation. Choir and chorus practice throughout the year.

INTERMEDIATE.—Two lessons per week in voice, practice one or two hours daily. Two lessons per week in harmony and history of music; choir and chorus practice throughout the year.

This course gives great attention to tone placing, elements of style and phrasing, staccato, legato and portmanto delivery, and exercises tending to the greater flexibility of the voice. Songs are of medium grade, freely used.

ADVANCED.—Two lessons per week in voice. Two lessons per week, harmony and counterpoint. Practice one to three hours daily. Choir and chorus practice throughout the year.

This course is devoted to a study of tone color, agility, and all musical ornaments—trill, turn or grupetta, appoggiatura, acciacatura, mordente—mezza-di-voce, phrasing and style, and advanced teaching by means of difficult exercises and songs, recitatives and arias from opera and oratorio.

All students in the Elementary voice class must attend the sight-reading class unless excused by the director, and choir and chorus work, with attendance at all recitals is required of every student; and when requested students in any grade must sing in recital and from memory.

COURSE IN PUBLIC SCHOOL MUSIC

This subject is naturally divided into two parts, and Normal students must prepare themselves to take the course in "Methods" by attendance and proficiency in the Sight Reading classes. To teach school singing one must be able to sing. Prerequisite to Public School Music. After 1912 all students taking Public School Music must hold a good grade in Vocal Sight Reading obtained in some fall term class.

COURSE IN PUBLIC SCHOOL MUSIC METHODS

The course in music is carefully classified for each of the grades in the public schools, the work being carefully outlined to develop the vocal ability, and musical education of the pupils, to suit the particular condition of the mind and the voice of the child, at the average age in each grade. This outline is somewhat as follows:

Rote songs for little folks. Study of "staff", "notes", "scale". Location of "do", or the keynote, in nine different keys. Sight reading and singing, by syllable and by letter. Much attention given to tone quality and rythm. Complete analysis of songs,—as to key signature, meter signature, tempo signs, marks of expression, the different values of notes used, etc. Written work from oral dictation of tones, syllables, or letters. Written work from dictation of rythm. Transposition of songs into different keys. Special practice in music class conducting. Singing at sight, rounds, and 2, 3, and 4-part songs. Thorough practice writing and singing major, minor, and chromatic scales. "Spelling" and "pronouncing" different triads or chords. A little study of the elements of harmony.

PIANOFORTE COURSE

ELEMENTARY.—Piano—Two lessons per week. Theory of music, two lessons per week.

New England Conservatory Course, Grades I and II. Finger exercises, scales, studies, etc. Sonatino and pieces by Kuhlman, Kullak, Clementi, Keinecke, Grieg, Shumann, etc.

INTERMEDIATE.—Piano—Two lessons per week. Theory of music two lessons per week. Harmony, two lessons per week.

All forms of technical exercises, scales, arpeggios, double thirds and octaves. Studies by Czerney, Cramer, Clementi, Turner, Loeschorn, Stamaty, Kohler, etc. Pieces by Mozart, Haydn, Bach, Schumann, Beethoven, Chopin, etc.

ADVANCED.—Piano—Two lessons per week. Harmony, Counterpoint, two lessons per week.

Studies by Clementi, Heuselt, Moszkowski, Tausig, Chopin, Moscheles, etc. Pieces by Bach, Beethoven, Chopin, Schumann, Liszt, Mozart, Rubenstein and modern composers.

THEORY OF MUSIC

This course will comprise study in the following: Notation, scales, rhythm and accent, musical terminology, syncopation, intervals, inversions, natural and artificial groupings, trills, turns, mordents, long and short grace notes. The advanced theory will deal with harmony and counterpoint and subdivisions thereof, concluding with forms and composition.

VIOLIN COURSE

ELEMENTARY.

Careful attention given to proper position of holding the violin and bow. Elementary violin lessons by "Gruenberg. Scales and chords from first to third position. Studies by Wohlfahrt, Tours,

Kayser, etc. Pieces, duetts, and ensemble. Musical Theory.

INTERMEDIATE.

Major and minor scales in all positions. Studies by Mozas, Alard, Sevcik, and Kreutzer. Pieces by Leonard, Wieniawski, Vieuxtemps, etc. Sonatas by Corelli, Handel and Beethoven. Easy concertos by modern composers. Sight playing, orchestra, string quartet, and Musical History class.

ADVANCED.

Technique by Sevcik, studies by Kreutzer, Fiorillo, Rhode, Depas, etc. Concertos by Viotti, Rhode, Kreutzer, Burch, Saint-Saens, etc. Orchestra, ensemble, string quartet class, and Musical History.

VIOLIN, VIOLONCELLO, AND CONTRABASS COURSE.

These instruments may be studied by similar grades to those in the violin course, or may be carried only up into the Intermediate Grade—pupils having reached a fair degree of proficiency on any stringed instrument are required to play in the regular College orchestra.

ADVANCED.

Technique by Sevcik, studies by Kreutzer, Fiorillo, Rhode, Depas, etc. Concertos by Viotti, Rhode, Kreutzer, Bruch, Saint-Saens, etc. Orchestra, ensemble, string quartet class and Musical History.

Viola, violoncello and contrabass courses are similar to those of violin. Pupils having reached a fair degree of proficiency on any stringed instrument are required to play in the regular College orchestra.

COURSE IN WIND INSTRUMENTS

Students wishing to take lessons on any wind instrument, require two lessons per week on instruments, two years harmony, one year theory, analysis, counterpoint, orchestration and military band.

THE BAND.

Instruction will be given by regular College band leader in the use of brass, wood, wind and percussion instruments. To become a member of the College band the student must pass a satisfactory examination before the director as to knowledge of music and ability to perform on certain instruments before securing recommendation to the President for their transfer to the band. The members are required to attend practice three times per week and to perform in public by authority of the President. There is no charge for instruction in the band. The College furnishes instruments, music and music stands to members of band and orchestra. Other students pay one dollar per month in advance for

instruments used in practice when furnished by the College. Those desiring private lessons in band instruments will consult with the Director of the department.

THE ORCHESTRA.

Any College student who plays on any string or wind instrument has the privilege of the orchestra on approval by the Director of Music.

Department of Physical Training for Men

W. E. SCHREIBER, *Director*

E. C. GALLAGHER, *Assistant*

P. J. DAVIS, *Assistant*

Much of the success of a young man or woman in college and in life after graduation depends on good health. The Oklahoma A. & M. College believes in the old adage, "A sound mind in a sound body". The Department of Physical Training aims to create and maintain a vigorous state of health in every student in the College and its work is so diversified that it meets the individual needs. It strives to keep the student body in the best possible physical condition, for and during their college course, and to lay the foundation for proper living after graduation. It aims to teach the principles of hygienic living and care of the body.

The Men's Gymnasium is a large, well lighted room 40x60 feet and contains all of the necessary apparatus for gymnasium work of all kinds. The outfitting is done with the idea of giving the student the advantages to be found in any well regulated college gymnasium. Dumbbells, barbells and Indian clubs will be found there in plenty for mass class drills and of the heavier apparatus there are the flying and traveling rings, the horse, the horizontal bar, the parallel bars, mats, jumping standards, etc. Boxing gloves and fencing foils are also supplied to those desiring to enter into this special work.

In direct connection with the gymnasium is a large locker room with 300 steel and wooden lockers, benches, and a well equipped shower room with eight showers for hot and cold baths.

Every student in the College is expected to do some work to keep himself in the best possible physical condition.

The students of the Freshman, Sub-Freshman, Business, and Short Courses are required to do a certain amount of work for

which they receive credit necessary for graduation. There are also classes organized for the other students of the College.

An athletic field for football, baseball and track and field athletics is provided by the College and maintained by the Athletic Association. Students are encouraged to take part in athletic and out-of-door-sports; College and class teams are organized and maintained by the Athletic Association and each team is under the supervision of a trained instructor.

Athletics are a part of the physical training work, but whether a student participates in them or not is optional. No student is allowed to become a member of a team until he has been examined by the Director and proven that he is physically fit. A high standard of scholarship is also required of all members of the College teams.

Each student in the men's department must provide himself with a gymnasium suit so that there can be a complete change of clothing for the physical training work. This suit consists of a sleeveless shirt (white or black), running trousers and soft soled shoes. These can be procured at a local store at a cost of not to exceed \$3.00.

COURSES FOR MEN

COURSE 1.—Physical Examination. Preliminary.

A thorough physical examination is required of all entering students. This examination consists of measurements, strength tests, examination of the eyes, ears, nose, throat, lungs, heart, and other vital organs, and special stress is laid upon physical deformities and inequalities. These defects are pointed out to the student and exercises to correct them are prescribed. Where necessary, special attention and advice are given to the student. An examination is taken at the beginning and at the end of the first year, and at the end of each year after that.

COURSE 2.—Required of the Sub-Freshmen of the College; fall, winter and spring terms. Introductory.

This work consists of mass class drills with dumbbells and barbells with deep breathing and abdominal mat work. Elementary apparatus work is given on the horse and parallel bars during the fall and winter terms, and is replaced during the spring term by out-of-door track and field athletic work. Tennis and baseball are also substituted. Three hours' work a week. Credit given, and required for graduation,

COURSE 3.—Required of the Freshmen of the College; fall, winter and spring terms.

The work of the Freshman classes consists of mass class drills with the dumbbells, barbells and Indian clubs, with elementary apparatus work on the flying rings and horizontal bar and advanced work on the horse and parallels. In the spring term the out-of-door work of Course 2 replaces the apparatus work. Three hours a week. Credit given and required for graduation.

COURSE 4.—Required of students of the Short Course in Agriculture; fall and winter terms only.

The work of this class will consist of the mass drills and light elementary apparatus work, and will deal more with the coordinative side of physical training than the developmental. The class is maintained during the fall and winter terms only. Two hours work a week. Credit given and required for graduation.

COURSE 5.—Required of students of the Business Course; fall, winter, and spring terms.

The work of this course will be somewhat similar to Course 2, but more advanced. It will consist of mass class drills and apparatus work of the heavier type. During the spring term the out-of-door work of Course 2 replaces the indoor work. Three hours a week. Credit given and required for graduation.

COURSE 6.—Special Classes. Open to all students.

A. Cross-country running. During the fall and spring terms those students desiring to do so may substitute a certain amount of cross-country running for the regular gymnasium work.

B. Wrestling. A class in wrestling, in which all of the holds, breaks and counters are given, is formed. A student may substitute one hour's work a week in wrestling for one hour of his regular class work.

C. Boxing. A class in boxing, in which all of the blows, parries, guards and counters are given, is formed. A student may substitute one hour's work in boxing for one hour of his regular class work.

D. Special Class. A special class is formed for those who on account of deformities are unable to take the regular work of the department. The work of this class is suited to the needs of the individual.

E. Individual corrective work will be done with all students who show in their examination the need of the work. The idea of this work is to correct the deformity so that the student may get the maximum value from the regular class work.

F. A class is organized and maintained for members of the Sophomore, Junior and Senior students. Meets twice a week. This work is optional with the students.

(NOTE)—A student may take any or all of the special work, but only one hour of substitution will be allowed.)

COURSE 7.—Advanced Gymnastic Class. Open to all students.

A special class is formed for those students who desire to do advanced work on the horse, parallel bars, horizontal bars, flying rings, mats, tumbling and club swinging, and for the leading of gymnasium squads. This comprises the regular gymnastic team for exhibition purposes. Three hours' work per week.

(NOTE)—Preceding Courses 2, 4 and 5 a few minutes' talk is given before each lesson on some subject of personal hygiene with the idea of helping the student in his daily life.)

ATHLETIC.

Teams are maintained in football, baseball, track and basketball. During the time any student is a member of one of the above teams he will be excused from all gymnasium work and will be given credit therefor.

Department of Physical Training for Women

EMMA JEWELL ROSS, *Director*
BERTHA COMBS, *Assistant*

The new Woman's Gymnasium, located in the Woman's Building, will be ready for use at the opening of the school year of 1911-12. This gymnasium will be an unobstructed room 32x63 feet and will be equipped with all of the modern gymnasium apparatus. There will be locker and dressing room in connection supplied with a large number of steel lockers. There are also shower baths and swimming pool. In the rear of the building is the woman's outdoor court, built by the Girls' Athletic Association. This court will be equipped for all kinds of out-of-door games and exercises.

A regular costume is required. In order that these may be uniform in pattern and color they are ordered by the College. The cost of the suit, including shoes, is about \$6.00.

At the beginning of the fall term each young woman is given a careful examination. Personal history, measurements, deformities, are taken and recorded with an examination of the vital organs. This examination is repeated during the spring term and comparison made at both examinations with the average. Suggestions and prescriptions suited to the needs of the individual are based upon this examination.

COURSE 1.—Required for the members of the Sub-Freshman, Business, and Short Course classes. Introductory. Three hours a week.

The work of these classes consists of floor work emphasizing carriage and coordination of muscles. Movements with apparatus, progressive back and abdominal exercises, Indian clubs, dumbbells, wands, military marching and gymnastic games are given.

COURSE 2.—Required of members of the Freshman class. Advanced. Three hours a week.

This course consists of floor work, apparatus with more advanced work than in Course 1, vaulting horse, buck, vaulting box, boom, marching and gymnastic games.

COURSE 3. Required of members of the Sophomore class.

Indoor and outdoor games, Swedish Gymnastics, Swimming elective.

COURSE 4.—Aesthetic Gymnastics. Elective for Juniors and Seniors.

The work of this course consists of systematic exercises in arm and body movements combined with fancy steps and marching to develop coordination and grace.

COURSE 5.—Corrective Gymnastics.

For those unable to take the work of the regular required courses, this course will be substituted. Hours to suit.

COURSE 6.—Massage and Medical Gymnastics.

Elective for Juniors and Seniors.

COURSE 7.—ATHLETICS.

A. Basketball. Each class has a basketball team and an inter-class schedule is played. Students playing on their class teams are given credit for this work. The work is optional with the students.

B. Field hockey and cross-country walking. Open to all classes during the months of October, April and May.

C. Tennis. Tennis is played on the College courts during favorable weather. A student may substitute tennis as a part of her required work and receive credit therefor. A tennis club is formed which is under the direction of the Girls' Athletic Association. The club is open to all girls of the College. The dues are 50 cents per year.

Military Department

THOS. T. DUKE, *Commandant*
First Lieutenant 23d U. S. Infantry
M. McDONALD, *Assistant*

This institution being one of the beneficiaries of the Act of Congress of 1862, instruction in military tactics is made compulsory.

The Department is in charge of an officer of the United States Army, detailed by the War Department, as professor of Military Science and Tactics.

Military discipline is exercised with firmness, kindness, and justice. It tends to cultivate habits of punctuality, alertness and the sense of personal responsibility. It also teaches attention to details, cleanliness of dress and person, a high sense of honor and respect for those in authority.

It helps the student to prepare himself the better for any position in life, because employers like to find men who are imbued with the idea of doing exactly as they are instructed by one authorized to direct them, and who have been trained to exercise quick yet sound judgment in any emergency that arises concerning which they have no definite instructions. These qualities are thoroughly inculcated in any person by a military training such as this College endeavors to give. In addition, the drills give a graceful carriage to the student, assist in the promotion of the health of the individual, and are an added benefit to the gymnasium work given at the College.

President Taft, on February 25, 1911, following a review of 1,400 cadets at the University of Illinois, wrote as follows to the President of that institution: "We are all in favor of college athletics, but one of the defects of athletics is the tendency to confine work to those who are naturally best adapted to it, while the great student body takes no active part in the games. This is not true of military training that comes from the organization and maintenance of a school regiment."

The course of instruction is made to conform strictly to the provisions of General Order No. 231, War Department. In compliance with the requirements of that order, the course is both practical and theoretical, and will be applied as follows:

PRACTICAL

1. Infantry Drill Regulations, through the school of the regiment, in close and extended order.
2. Advance and rear guards, and outposts.
3. Marches.
4. The ceremonies of review, inspection, parades, escort of the colors, guardmounting, etc.
5. Gallery practice.
6. Target practice.
7. Field problems with blank ammunition.

All students, not physically disqualified, are required to drill. During the fall term there will be three drills per week, while the winter and spring terms will be devoted to two drills with one hour's instruction in Military Science in the subjects as set forth in following table:

THEORETICAL—MILITARY SCIENCE

1. Infantry Drill Regulations, 1904.
2. Small Arms Firing Regulations, 1909.
3. Field Service Regulations, 1910.
4. Manual of Guard Duty.
5. Outlines of First Aid to the Injured.
6. Lectures on various military topics.

Satisfactory completion of the prescribed work is required before graduation.

Students entering from other institutions where officers of the army are detailed will be given credit for any theoretical work for which they hold certificates, provided they are not afterward found deficient in the practical work of the subject.

EQUIPMENT

The War Department has supplied the College with 450 U. S. magazine rifles, caliber .30, of the Krag-Jorgensen pattern, and 450 sets of infantry equipment. Swords, target supplies, and

annual issues of ball, blank, and gallery cartridges are also received from the War Department.

Two uniforms will be used. One consists of coat, trousers and hat, and the other of the same hat and trousers but with a blue chambray shirt instead of the coat. The coat, trousers, hat and two shirts cost \$17.05 for season of 1911-12. With the uniform, black high shoes must be worn at all times. A white military collar is required when the coat is worn. White gloves are required when under arms.

The uniform will give more wear than a civilian suit costing the same amount. It is made of an excellent grade of 16 and 18-ounce Charlottesville woolen goods of gray color. Each suit is tailor made to individual measure, and a correct fit is guaranteed by the contractor and must meet the approval of the Commandant.

ORGANIZATION

All young men are required to enroll in the Military Department if physically able to take the work.

The Corps of Cadets has been organized into a regiment consisting of a band and two battalions of four companies each. Officers whose service has been satisfactory are given a genuine parchment commission on their graduation.

Upon the graduation of each class, the names of such students as have shown special aptitude for military service are reported to the adjutant general of the army and to the adjutant general of their State.

ROSTER OF THE CORPS OF CADETS

Commandant of Cadets:

FIRST LIEUTENANT THOS. T. DUKE

Twenty-Third United States Infantry

Field and Staff:

Major First Battalion: CORNELIUS SCHNURR.

Major Second Battalion: GEO. A. HOKE.

Regimental Adjutant: M. B. MCKAY,

Quartermaster and Commissary: C. L. McARTHUR.

Adjutant First Battalion: E. C. GAYLON.

Adjutant Second Battalion: R. C. LEWELLYN.

Non-Commissioned Staffs

Regimental Sergeant Major: S. L. JEFFORDS.

Sergeant Major First Battalion: G. F. TONGUE.

Sergeant Major Second Battalion: W. F. GRAY.

Color Sergeants: LOYAL F. PAYNE, RAY EVANS.

Band:

H. D. STROTHER, Leader

Chief Musician: M. A. REGNIER.

Principal Musician: FRANK GARDNER.

Drum Major: E. C. HARTSHORN.

Sergeants: RAY PAINTER,
W. E. DOLDE,
H. C. HERRICK,
WAYNE NELLIS.

Corporals: CARL HARVEY,
CLAUDE MCKAY,
H. L. PECK,
W. H. PATTERSON,
CARROL COBURN.

FIRST BATTALION

COMPANY A		COMPANY B		COMPANY C		COMPANY D	
Captains	J. C. McIntyre	C. P. Blackwell	D. H. Watson	R. V. Hall	R. J. Hamon	T. W. Duck	H. H. Frenzel
1st Lieutenants	R. N. Davis	W. S. Dorman	C. H. Friar	J. W. Albright	Edmund Wells	H. D. Shiplett	F. Comstock
2nd Lieutenants	M. E. Hiet	F. L. Knoblock	L. A. Vaandervoort (Actg.)..	S. I. Krepps	E. B. Dale	J. P. Hume	H. E. Conklin
1st Sergeants	H. W. Gregory	H. N. Lynch	N. A. Melton	A. H. Willdman	Will Gaudian	W. C. Carter	W. E. Watson
Sergeants	W. B. Connell	T. H. Rhoads	J. H. Epperson	D. H. Reynolds	C. A. Smith	W. W. McCaslin	D. H. Reynolds
Corporals	W. W. Reynolds	C. A. Smith	H. R. Hedger	A. F. Whipple	G. Sanders	T. A. Lindsey	H. R. Hedger
Musicians							

SECOND BATTALION

COMPANY E		COMPANY F		COMPANY G		COMPANY H	
Captains	N. E. Wintens	W. J. Burke	A. J. Moore	E. H. Brewer	R. C. Shiplett	A. K. Tilgerson	W. W. Ford
1st Lieutenants	S. J. Mavvill	H. H. Wike	H. C. Leicht	Mac Hoke	John Sieglinger	E. E. Barlett	F. G. Drummond
2nd Lieutenants	E. Kilpatrick						
1st Sergeants	Fred Crocker						
Sergeants	S. B. Johnson	A. C. Brodell	H. H. White	Hugh Hobbs	V. I. Correll	C. L. McIlvain	G. E. Weaver
Corporals	F. A. Potter	J. W. Harvey	F. C. Seeger	H. R. Albert	I. R. Butler	O. J. Klotzman	C. E. Wiltson
Musicians	K. D. Walker						

BEST COMPANY

Company G, under command of Captain D. H. Watson, won the saber presented for the best drilled company. The name of the Captain will also be engraved on a silver plate on the pike of the College flag.

SCORES OF RIFLE CLUB, INTERCOLLEGIATE INDOOR CHAMPIONSHIP
SHOOT, FIRED MAY 3RD, 1911

Names.	Standing.		Prone.		Total.
Barr, R. B.....	37	35	42	41	155
McKay, M. B.....	27	39	46	41	153
Seeger, E. C.....	35	31	43	44	153
Wilson, C. E.....	40	39	40	31	150
Williams, R. L.....	38	28	38	44	148
Ledbetter, L. C.....	34	45	39	25	143
Hopps, C. W.....	24	36	34	40	134
Payne, L. F.....	30	16	42	45	133
Roeser, Harry.....	16	25	35	40	116
Goom, Austin.....	19	28	34	29	110
Grand total.....					1395

Cadets qualifying in Special Course "C", U. S. Army Firing Regulations, and entitled to marksman's decoration, presented by the War Department through the National Rifle Association:

	Yards.		200		300		500		Total.
T. W. Rhoads.....	20	14	16	16	20	18			104
E. C. Seeger.....	17	16	19	19	19	20			110
R. L. Williams.....	17	17	21	18	16	20			109
M. E. Hiet.....	16	13	19	16	19	16			98
J. C. McIntyre.....	14	14	17	18	17	19			99
Frank Gardner.....	18	14	18	15	21	20			106
M. B. McKay.....	18	18	18	17	17	18			106
Harry Leicht.....	19	19	15	18	20	16			107
W. S. Dorman.....	17	15	22	14	19	18			105

R. B. Barr of Enid was presented with Members' Medal for highest score made in National Rifle Club competition.

Department of District Agricultural Schools

B. C. PITTMACK, *Dean*

The First and Second State Legislatures of Oklahoma provided for the location and establishment of six agricultural schools, in each of which secondary courses in agriculture are offered. These schools are under the supervision of the Oklahoma State Board of Agriculture, and in accordance with the

law establishing them, have their courses of study leading to the Oklahoma Agricultural and Mechanical College and the State Normal Schools. The courses of study offered in these schools to the boys and girls of Oklahoma are planned to give them a more practical form of education than they have heretofore had at their command. No other course than an industrial course is offered.

The A. & M. College and the State Normals will give credits for work done should the student desire to take up advanced work.

The following are the names and location of each of the six schools:

The Connors State School of Agriculture, Warner, Oklahoma, represents the First Supreme Court Judicial District. Walter Van Allen, Superintendent.

The Murray State School of Agriculture, Tishomingo, Oklahoma, represents the Second Supreme Court Judicial District. Hal. L. Muldrow, Superintendent.

The Haskell State School of Agriculture, Broken Arrow, Oklahoma, represents the Third Supreme Court Judicial District. J. H. Eslinger, Superintendent.

The Cameron State School of Agriculture, Lawton, Oklahoma, represents the Fourth Supreme Court Judicial District. J. A. Liner, Superintendent.

The Connell State School of Agriculture, Helena, Oklahoma, represents the Fifth Supreme Court Judicial District. W. S. Calvert, Superintendent.

The Panhandle Agricultural Institute, Goodwell, Oklahoma, represents the Panhandle Agricultural District. S. W. Black, Superintendent.

SPECIMEN ENTRANCE EXAMINATION QUESTIONS

Those desiring to enter the regular College courses and who have no common school or high school diplomas will do well to carefully examine the list of specimen questions herein set forth and satisfy themselves that they can answer such questions before applying in person at the College for admission to Business Course, Sub-Freshman, Freshman or Sophomore classes. No examinations are required for admission to any of the Short Courses in Agriculture and Domestic Science.

SUB-FRESHMAN CLASS AND BUSINESS COURSE

Arithmetic

I. The quotient is $68^{\circ}16$, the remainder 261, the divisor 923. What is the dividend?

II.

$$5329842 \times 3978 = ?$$

III.

$$55 \times 62^{\frac{3}{10}} \times 61^{\frac{7}{11}} = ?$$

IV. Divide:

$$16^{\frac{3}{7}} \times 7 \text{ by } 9^{\frac{1}{1}}$$

V. Divide:

$$\frac{44}{87} \times 14^{\frac{5}{8}} \text{ by } 20^{\frac{1}{4}}$$

VI. Reduce:

$$\frac{1}{2}^{\frac{4}{5}} \text{ to a decimal fraction}$$

VII. (a) Write in decimals thirty-one and four hundred sixteen thousandths.

(b) Write in decimals nine and one hundred five ten millionths.

VIII. If a miller takes $\frac{1}{8}$ for toll, and a bushel of wheat makes 40 lbs. of flour, how many bushels must be carried to mill to make 196 lbs. or 1 bbl. of flour?

IX. Find the interest on a note of \$480, given January 1, 1910, running till June 30, 1911, at 6 per cent. Find amount due.

X. A sidewalk is 36 ft. long, 5 ft. 6 in. wide. What will be the cost of making at \$1.35 per sq. yd?

Grammar

Write the plural for each of the following: Church, ax, life, cuff, axis, datum, nebula, sheaf, penny, alley, son-in-law.

Name all the different classes of pronouns and give two examples of each.

(a) Use an infinitive as the subject of a sentence. (b) As an object of a transitive verb. (c) As the subjective complement.

(a) Principal parts: see, sit, set, lie, lay, come, burst. (b) Pluralize: for-get-me-not, father-in-law, deer, it, genius.

Decline in singular and plural, I, man, which, he, John. What is voice? Change the voice in the following sentence: John discovered coal on his farm.

United States History

Compare the colonists of Virginia and Massachusetts as to ancestry, religion and occupation.

Name three important inventions and show their effect upon our industries.

Discuss causes of the Civil War: as to different constructions of the Constitution and different systems of labor in North and South.

Give cause of, and extent of the application of the Emancipation Proclamation.

Give four of the principal issues of the campaign of 1908.

Geography

Discuss the climate, elevation, and rainfall of Oklahoma.

Name five Indian tribes in Oklahoma and tell where each is found.

(a) Name the New England States and give the capital of each.

(b) Name five important industries of this section.

Discuss the drainage of North America and name eight important rivers.

Discuss briefly the foreign possessions of the United States.

Name the planets in their order from the sun.

FRESHMAN CLASS**Algebra**

$$(a) (x+y)^2, (b) (2a+3b)^2, (c) (2a+3b)^3.$$

$$(a) (x^5-y^5) \div (x-y), (b) (x^7+a^7) \div (x+a).$$

Factor:

$$(a) 6a^2-5a-4$$

$$(b) 27x^3-64$$

$$(c) a^2-b^2x^2, (d) 1-x^4, (e) a^4+4, (f) x^2-x-30.$$

What is that number which when divided by three is equal to one-quarter of the sum of itself and twenty-five?

Solve:

$$2x+2y+4z=20$$

$$3x+4y+5z=26$$

$$3x+5y+6z=31$$

Solve:

$$\frac{4x-3}{16} - \frac{x-2}{4} = \frac{2x-2}{5x+2}$$

Multiply:

$$(a) \quad 2 + \sqrt{5} \text{ by } 2 - \sqrt{5}.$$

$$(c) \quad \sqrt{\frac{3}{5}} \text{ by } 3\sqrt{\frac{20}{108}}$$

$$(b) \quad 3 - \sqrt{15} \text{ by } 2 + \sqrt{5}.$$

Literature

Give from memory a list of the literature you have read as a part of your school work since completing the eighth grade. Supply also other information as suggested by the following form:

Literature Studied	Is It Prose or Poetry?	Further Classify It: for example as Novel, Oration, Lyric, Poem, etc.	Author	Nationality of Author
1				
2				
3, etc.				

English

Describe the embarkation in "Evangeline".

Which is the shrewder person, Brutus or Cassius? Give solid reasons for your answer.

Discuss briefly the effect of the coming of Eppie upon Silas Marner.

Who or what was each of the following: (Answer each in not more than ten words.)

The Styx

Hercules

Pandora

Achilles

Prometheus

Charon

Psyche

Paris

Juno

Composition

What is a paragraph? Tell how it is constructed and how it is separated from other paragraphs on the page.

Write a one-page or two-page theme explaining how to play some simple and familiar game.

Physiology

Name three kinds of joints; state what movements are possible in each; and name the structures containing a perfect joint.

In a pen and pencil sketch, show the divisions of the skin and the different structures it contains.

Trace a piece of cooked potato from the time it enters the mouth until it is thrown off from the lungs as carbonic acid gas and water.

Distinguish between fractures, dislocations and sprains.

Name and give the use of eight different parts of the eye-ball.

Physical Geography

Discuss young, mature, and old valleys and tell how we can estimate the age of mountains.

(a) Discuss erosion. (b) Name six agents of erosion.

Name two important classes of rock and tell how each is formed.

Discuss underground currents and the formation of lakes.

Discuss the effect of climate, elevation, etc., on plant and animal life.

SOPHOMORE CLASS**Geometry**

Define: Diagonal of a polygon; similar arcs, radius of a polygon; spherical wedge; altitude of a prism; right circular cone.

Find the centers for the inscribed circle and the circumscribed circle in the triangle A B C. Prove your construction.

The diameter of a circular grass plot is 28 feet. Find the diameter of a circular grass plot just twice as large.

The sum of the face angles of any convex polyhedral angle is less than four right angles. Prove.

Show how to divide a given rectangle into four equivalent parts by lines drawn from one of the vertices of the rectangle. Give proof.

Advanced Algebra

Solve:

$$(a) \quad (2x^2-1)^2-5(2x^2-1)=14$$

Divide:

$$(b) \quad \left(x^{\frac{5}{2}}+x^2+x^{\frac{3}{2}}+x+x^{\frac{1}{2}}+1\right) \text{ by } \left(x+x^{\frac{1}{2}}\right)$$

Extract the square root of:

$$(a) \quad x^4+4x^3+2x^2-4x+1.$$

$$(b) \quad 9a^2-6ab+30ac+6ad+b^2-10bc-2bd+25c^2+10cd+d^2.$$

Solve:

$$\left\{ \frac{x+3b}{8a^2-12ab} - \frac{3b}{9b^2-4a^2} - \frac{a+3b}{(2a+3b)(x-3b)} \right\} = 0.$$

One edge of a rectangular box is increased 6 inches, another 3 inches, and the third is decreased 4 inches, making a cube whose volume is 864 cubic inches greater than that of the original box. Find its dimensions.

Solve:

$$(b) \begin{cases} \frac{x+y}{x-y} - \frac{x-y}{x+y} = \frac{89}{40}. \\ 6x=20y+9. \end{cases}$$

Solve:

$$(a) \quad \sqrt{3+x} + \sqrt{x} = \frac{6}{\sqrt{3+x}}$$

$$(b) \quad \sqrt{\frac{x}{4}} - 3 + \sqrt{\frac{x}{4}} - 3 = \sqrt{\frac{2x}{3}}$$

How can the solution of two simultaneous equations be represented graphically?

Physics

Define: Extension; impenetrability; porosity; density.

State Pascal's law. Describe the hydraulic press.

State Boyle's law. Describe a simple form of air pump.

How find the specific gravity of a solid?

Define: Work; energy; power.

Latin

What must you know in order to be able to decline a noun?

Name four important classes of i-stem nouns and tell in what cases their endings differ from those for consonant stems.

How are the conjugations distinguished?

What is a deponent verb?

Decline: Dea, fortiter, amans, felix, calcar, mare, quis, sui.

Give in full the imperative infinitives and participles of reg.

Translate: Deinde Eurystheus Herculi laborem hunc graviores imposuit. Augeas quidam, qui illo tempore regnum in Elide obtinebat, tria milia bonum habebat. Hi in stabulo ingentis magnitudinis includebantur; stabulum autem inlucie ac squalore obsitum est; neque enim ad hoc tempus unquam purgatum erat. Hoc issus est Hercules intra spatium unius diei purgare. Ille, etsi res erat multae operae, negotium suscepit. Primum magno labore fossam duodeviginti pedum fecit, per quam fluminis aquam de mortibus ad murum stabuli perduxit. Tum, postquam murum perripuit, aquam in stabulam immisit; et tali modo contra opinionem omnium opus confecit.

Literature

When, where, and for what purpose was Burke's speech on conciliation delivered?

Tell briefly some of the most important ideas you have gained from Bacon's essays.

Tell what you can of the passage in either of Webster's Bunker Hill orations which seems to you the most worth remembering.

Point out clearly the difference between the essay and the oration, illustrating what you say by reference to essays and orations studied.

Composition

Discuss briefly the difference between exposition and argumentation.

Write a one-page descriptive theme.

OFFICIAL LIST OF TEXT BOOKS

Official list of textbooks by courses for all departments of the College, giving name of text, author, and the price of each, adopted by the Faculty June 19, 1911. No textbook is required for the subjects called for in the outline of courses of study not listed below. When the same textbook is used in a succeeding term, the textbook is listed only with the term in which the subject is first taught.

Note books are not listed. Uniform note books have been adopted by the Faculty and will be used by all departments of the College requiring the use of note books. The note book used for theory work will cost five cents and the note book used in practicum work will cost not to exceed thirty cents. Specimens of these note books are on file in the President's office.

AGRICULTURAL DIVISION

Freshman Year—Fall Term

English 1a, Principles of Composition—Pearson.....	\$.50
English 1a, Myths of Greece and Rome—Guerber.....	1.50
English 1a, Shakespeare's Macbeth—Arden Edition.....	.25
English 1a, Poe's Poems and Tales—Riverside Literature Series.....	.15
Mathematics 1a, High School Algebra, Advanced Course—Lennes & Slaughter.....	.65
Physics 1, First Course in Physics—Millikan & Gale.....	1.25
History 1a, Ancient History—West.....	1.50
Public Speaking 1a, Foundations of Expression—S. S. Curry.....	1.25

Winter Term

English 1b, Paragraph Writing—Scott & Denny.....	1.25
English 1b, Byron's Prisoner of Chillon—Riverside Literature Series.....	.15
English 1b, Arnold's Shorab and Rustum—Riverside Literature Series.....	.15
Agronomy 1a, An Introduction to Geology—Scott.....	2.60
Mathematics 2a, Plane Geometry—Stone & Millis.....	.85
History 1b, History of Western Europe—Robinson.....	1.60

Spring Term

English 1c, Quentin Durward,—Handy Pocket Classics.....	.25
English 1c, Every student is required to have a good dictionary.....	.00
Agronomy 1, Farm Machinery and Motors—Davidson & Chase.....	2.00
Botany 1a, An Elementary Text—L. H. Bailey.....	1.10

Sophomore Year—Fall Term

English 2a, Specimens of Prac. Composition—Nutter, Hersey & Greenough.....	1.25
English 2a, Romeo and Juliet—Shakespeare—Arden Edition.....	.25
Chemistry 1a, Inorg. Chem. for Beginners—Roscoe & Lunt.....	.75
Chemistry 1a, Elementary Principles of Chem.—McFarland.....	1.00
Dairying 1, Farm Dairying—John Michels.....	1.00
Zoology 1, Manual of Zoology—Parker & Haswell.....	1.60

Winter Term

English 2b, Winter's Tales—Arden Edition.....	.25
Chemistry 1b, Qualitative Analysis—Green & Wandercleed.....	1.50
Agronomy 2, Soils—Lyon & Teppin.....	1.75
Animal Husbandry 2a, Types and Breeds of Farm Animals—C. S. Plumb.....	2.00
Horticulture 1, Lessons in Fruit Growing—E. S. Goff.....	1.00

Spring Term

English 2c, Narrative Poems—Handy Pocket Classics.....	.25
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English 2c, Stevens' "Kidnapped"—Handy Pocket Classics.....	.25
Agronomy 4, Southern Field Crops—Duggar.....	1.75
Agronomy 3, Examining and Grading Grain—Lyon & Montgomery.....	.50
Horticulture 2, Gardening for Profit—Peter Henderson.....	1.50

Junior Year—Fall Term

Physiology 1, Physiology—Brubaker.....	2.50
Botany 2, Vegetable Physiology—J. R. Green.....	3.00
Chemistry 2, Genral Chemistry for Colleges—Alex. Smith.....	2.15
Chemistry 2, Quantitative Expts. in Gen. Chem.—Stoddard.....	1.00

Electives

German 1a, German Grammar—P. V. Bacon.....	1.25
English 3, Twelfth Night—Shakespeare—Rolfe Edition.....	.56
English 3, Hamlet—Shakespeare—Rolfe Edition.....	.56
Social Science 2, Introduction to Economics—Seager.....	1.75
Public Speaking 2, Classics for Vocal Expression—S. S. Curry.....	1.25

Winter Term

Animal Husbandry 3a, Principles of Breeding—Davenport.....	2.50
Chemistry 7, Outlines of Organic Chemistry—Moore.....	1.50
Chemistry 7, Laboratory Manual of Organ. Chem.—Orndorf.....	.35
Dairying 2, Questions and Answers in Milk Testing (lab.)—Chas. Publow.....	.50
Veterinary Medicine 1, Veterinary Anatomy—Ballou.....	1.25

Elective

English 4a, Development of the English Novel—Cross.....	1.50
Social Science 3, Trust Problems—Jenks.....	1.00

Spring Term

Botany 4, Fungous Diseases of Plants—B. M. Duggar.....	2.00
Entomology 1, Elementary Studies of Insect Life—J. S. Hunter.....	1.25
Entomology 1, Manual of Insect Anatomy—Comstock & Kellog.....	1.00
Chemistry 10, Chemistry of Plant and Animal Life—Snyder.....	1.40
Chemistry 10, Dairy Chemistry—Snyder.....	1.00

Elective

German 1c, Im Vaterland—P. V. Bacon.....	1.25
Social Science 4, Introduction Agricultural Economics—Taylor.....	1.25

Senior Year—Animal Husbandry Course—Fall Term

Bacteriology 1, General Bacteriology—Jordon.....	2.25
Animal Husbandry 4, Feeds and Feeding—Henry (1910 Edition).....	2.00
Veterinary Medicine 2, Animal Parasites—Kaupp.....	1.50
Animal Husbandry 5, Judging Live Stock—Craig.....	1.50

Winter Term

Veterinary Medicine 3, Materia Medica—Potter.....	1.25
Animal Husbandry 6, Farm Buildings—Sanders.....	2.00

Spring Term

Veterinary Medicine 4, Animal Diseases—Reynolds.....	1.75
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Senior Year—Agronomy Course—Fall Term

Bacteriology 1, General Bacteriology—Jordon.....	2.25
Animal Husbandry 4, Feeds and Feeding—Henry (1910 Edition).....	2.00
Entomology 3, Economic Entomology—J. B. Smith.....	2.50

Winter Term

Agronomy 8a, Soil Fertility and Permanent Agriculture—Hopkins.....	2.25
Bacteriology 2, Agricultural Bacteriology—Conn.....	1.60

Senior Year, Dairying—Fall Term

Bacteriology 1, General Bacteriology—Jordon.....	2.25
Animal Husbandry 4, Feeds and Feeding—Henry (1910 Edition).....	2.00
Dairying 3, Principles and Practice of Butter Making—McKay & Larson.....	1.50
Dairying 3, Practical Buttermaking—M. H. Myer.....	1.50

Winter Term

Dairying 4, Cheese Making—Decker.....	1.75
Dairying 4, Fancy Cheese in America—Publow.....	.50
Dairying 5, Business of Dairying—Laue.....	1.25
Dairying 5, The Farm Dairy—Guerber.....	1.00

Spring Term

Dairying 7, Instruction in Engines—Boss.....	1.00
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Senior Year, Horticultural Course—Fall Term

Bacteriology 1, General Bacteriology—Jordan.....	2.25
Animal Husbandry 4, Feeds and Feeding—Henry (1910 Edition).....	2.00
Horticulture 6, Systematic Pomology—F. A. Waugh.....	1.00

Winter Term

Agronomy 8a, Soil Fertility and Permanent Agriculture—Hopkins.....	2.25
Horticulture 4, Nursery Book—L. H. Bailey.....	1.60

Spring Term

Horticulture 3, Principles of American Forestry—S. B. Green.....	1.50
Horticulture 8, Landscape Gardening—Edw. Kemp.....	1.50

Senior Year Electives—Fall Term

English 5, Tennyson's Complete Poems—Globe Edition.....	1.50
Social Science 1, Commercial Law—Gazo.....	1.00
Social Science 5, Sociology—Dealey.....	1.50
German 2a, Rubenzahl—Göbel.....	.45
German 2a, Besuch in Carcer—Eckstein.....	.50
German 2a, German Composition—Harris.....	.50
Veterinary Medicine 2, Animal Parasites—Kaupp.....	1.50
Pedagogy 1, Psychology—James, Angell—Titchener—Dewey or Stout.....	1.50
Entomology 6, Economic Entomology—J. B. Smith.....	2.50

Winter Term

Bacteriology 2, Agricultural Bacteriology—Conn.....	1.60
English 6, British Poets of 19th Century—Page.....	2.00
Social Science 6, Social Duties—Henderson.....	1.50
Zoology 4, Embryology—Foster & Balfour.....	2.20
German 2b, Die Journalister—Freytag.....	.45
German 2b, Hermann and Dorothea—Goethe.....	.60
Botany 7-8, Methods in Plant Histology—C. J. Chamberlain.....	2.70
Entomology 4, Manual of Insect Life—J. H. Comstock.....	4.25
Pedagogy 2, History of Education—Monroe or Painter or others.....	1.50

Spring Term

Bacteriology 3, Technical Bacteriology—Ricketts.....	1.70
English 7, Sartor Resartus—Carlyle.....	.80
English 7, Selected Essays and Letters—Ruskin.....	.60
Social Science 8, Federal State—Ashley.....	2.00
German 2c, A Course in Scientific German—Hodges.....	.75
German 2c, Wilhelm Tell—Schiller.....	.70
Astronomy 1, Elements of Astronomy—Young.....	1.60
Pedagogy 3, Dutton or Bagley or others.....	1.50

ENGINEERING DIVISION**Freshman Year—Fall Term**

English 1a, Principles of Composition—Pearson.....	.50
English 1a, Myths of Greece and Rome—Guerber.....	1.50
English 1a, Macbeth—Shakespeare—Arden Edition.....	.25
English 1a, Poe's Poems and Tales—Riverside Literature Series.....	.15
Mathematics 1a, High School Algebra—Lennes & Slaughter.....	.65
Mathematics 2a, Plane Geometry—Stone & Millis.....	.85
History 1a, Ancient History—West.....	1.50
Public Speaking 1a, Foundations of Expression—S. S. Curry.....	1.25

Winter Term

English 1b, Paragraph Writing—Scott & Denny.....	1.25
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English 1 <i>b</i> , Byron's Prisoner of Chillon—Riverside Literature Series.....	.15
English 1 <i>b</i> , Arnold's Shorab and Rustum—Riverside Literature Series.....	.15
History 1 <i>b</i> , History of Western Europe—Robinson.....	1.60

Spring Term

English 1 <i>c</i> , Quentin Durward—Handy Pocket Classics.....	.25
English 1 <i>c</i> , Every student is required to have a good dictionary.....	.00
Mathematics 1 <i>c</i> , College Algebra—Rietz & Crathorn.....	1.50
Mathematics 2 <i>c</i> , Solid Geometry—Stone & Millis.....	.85
Physics 1, First Course in Physics—Millikan & Gale.....	1.25

Sophomore Year—Fall Term

English 2 <i>a</i> , Specimens of Prac. Composition—Nutter, Hersey & Greenough.....	1.25
English 2 <i>a</i> , Romeo and Juliet—Shakespeare—Arden Edition.....	.25
Mathematics 3, Plane and Spherical Trigonometry—Ashton & Marsh.....	1.20
Chemistry 1 <i>a</i> , Inorg. Chem. for Beginners—Roscoe & Lunt.....	.75
Chemistry 1 <i>a</i> , Elementary Principles of Chemistry—McFarland.....	1.00
Mechanical Engineering 5 <i>a</i> , Elementary Mechanics—Merrill.....	1.50
Mechanical Engineering 6 <i>a</i> , Drawing Instruments, cost about.....	10.00

Winter Term

English 2 <i>b</i> , Winter's Tales—Arden Edition.....	.25
Mathematics 4 <i>a</i> , Analytic Geometry—Tanner & Allen.....	2.00
Chemistry 1 <i>b</i> , Quantitative Analysis—Green & Wanderleed.....	1.50
Mechanical Engineering 7 <i>a</i> , Descriptive Geometry & Plates—Church.....	2.50

Spring Term

English 2 <i>c</i> , Narrative Poems—Handy Pocket Classics.....	.25
English 2 <i>c</i> , Stevens' "Kidnapped"—Handy Pocket Classics.....	.25
Civil Engineering 1, Surveying Manual—Pence & Ketchum.....	2.00

Mechanical Engineering—Junior Year—Fall Term

Physics 2, Electricity and Magnetism—Thompson.....	1.40
Mathematics 6 <i>a</i> , Infinitesimal Calculus—Murray.....	2.00

Winter Term

Physics 3, Sound and Light—Franklin.....	2.00
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Senior Year—Fall Term

E. E. 7 <i>a</i> , Elements of E. E. Vol. II—Franklin & Esty.....	3.50
C. E. 18, Structural Mechanics—Green.....	2.50
M. E. 14, Hydraulic Motor and Turbines—Bodmer.....	5.00
Social Science 1, Commercial Law—Gano.....	1.00

Winter Term

M. E. 15, Gas Engines—Mehrtens.....	2.00
M. E. 16, Steam Power Plants—Meyer.....	2.00

Spring Term

C. E. 20, Contracts and Specifications—Johnson.....	3.00
M. E. 18, Heating and Ventilating—Carpenter.....	3.50
E. E. 12, Electric Power Plant Engineering—Weingrein.....	5.00

Electrical Engineering—Junior Year—Fall Term

Physics 2, Electricity and Magnetism—Thompson.....	1.40
Mathematics 6 <i>a</i> , Infinitesimal Calculus—Murray.....	2.00
E. E. 1 <i>a</i> , Elements of E. E. Vol. I—Franklin & Esty.....	4.50
M. E. 8, Kinematics—Schwab & Merrill.....	3.00

Winter Term

Physics 3, Sound and Light—Franklin.....	2.00
C. E. 10 <i>a</i> , Applied Mechanics for Engineers—Hancock.....	2.00
M. E. 11 <i>a</i> , Thermodynamics—Reeves.....	2.50

Spring Term

E. E. 5, Storage Battery Engineering—Lyndon.....	3.00
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Senior Year—Fall Term

M. E. 13 <i>a</i> , Machine Design Parts I & II—Unwin	3.00
C. E. 18, Structural Mechanics—Green	2.50
E. E. 6, Electrical Engineer's Handbook—Foster.....	5.00
E. E. 7 <i>a</i> , Elements of E. E. Vol. II—Franklin & Esty	3.50
E. E. 8 <i>a</i> , Transactions, A. I. E. E.	2.50
Social Science 1, Commercial Law—Gano	1.00

Winter Term

M. E. 16, Steam Power Plants—Meyer.....	2.00
E. E. 9, Design of Dynamos—Thompson.....	3.50

Spring Term

C. E. 20, Contracts and Specifications—Johnson.....	3.00
E. E. 12, Power Plant Engineering—Weingrein	5.00
E. E. 14, Blueprints of Circuits.....	1.00

Civil Engineering—Junior Year—Fall Term

Physics 2, Electricity and Magnetism—Thompson.....	1.40
Mathematics 6 <i>a</i> , Infinitesimal Calculus—Murray.....	2.00
C. E. 2, Prs. and Pract. of Surveying Vol. I—Breed & Hosmer.....	3.00
C. E. 3, Railroad Curves and Earthwork—Allen.....	2.00
E. E. 1 <i>a</i> , Elements of E. E. Vol. I—Franklin & Esty.....	4.50

Winter Term

Physics 3, Sound and Light—Franklin.....	2.00
C. E. 10 <i>a</i> , Applied Mechanics for Engineers—Hancock.....	2.00

Spring Term

C. E. 6, Roads and Pavements—Baker.....	5.00
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Senior Year—Fall Term

C. E. 8 Irrigation Engineering—Wilson.....	4.00
C. E. 11, Hydraulics—Merriman.....	5.00
C. E. 12, Design of Highway Bridges—Ketchum.....	4.00
C. E. 18, Structural Mechanics—Green.....	2.50
Social Science 1, Commercial Law—Gano.....	1.00

Winter Term

C. E. 14, Masonry Construction—Baker.....	5.00
C. E. 15, Reinforced Concrete—Turneure & Maurer.....	3.50
C. E. 16, Sewerage—Folwell.....	3.00
C. E. 19 <i>a</i> , Elements of R. R. Engineering—Raymond.....	3.50

Spring Term

A. E. 11, New Building Estimator—Arthur.....	2.25
C. E. 20, Contracts and Specifications—Johnson.....	3.00
C. E. 17, Public Water Supplies—Turneure—Russell.....	5.00

Architectural Engineering—Junior Year—Fall Term

Physics 2, Electricity and Magnetism—Thompson.....	1.40
Mathematics 6 <i>a</i> , Infinitesimal Calculus—Murray.....	2.00
E. E. 1 <i>a</i> , Elements of E. E. Vol. I—Franklin & Esty	4.50
C. E. 2, Prs. Pract. of Surveying Vol. I—Breed & Hosmer.....	3.00

Winter Term

Physics 3, Sound and Light—Franklin.....	2.00
C. E. 10 <i>a</i> , Applied Mechanics for Engineers—Hancock.....	2.00

Spring Term

A. E. 4, History of Architecture—Hamblin.....	1.70
A. E. 5, The American Vignola Part I—Ware.....	2.25
A. E. 3, Building Construction and Supt.—Kidder.....	3.50

Senior Year—Fall Term

C. E. 12, Design of Highway Bridges—Ketchum.....	4.00
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C. E. 18, Structural Mechanics—Green.....	2.50
A. E. 7, Prs. and Pract. of Plumbing—Cosgrove.....	3.00
Social Science 1, Commercial Law—Gano.....	1.00

Winter Term

C. E. 14, Masonry Construction—Baker.....	5.00
C. E. 15, Reinforced Concrete—Turneaure & Maurer.....	3.50
A. E. 9, Steel Construction—Tucker.....	1.50

Spring Term

C. E. 20, Contracts and Specifications—Johnson.....	3.00
A. E. 11, New Building Estimator—Arthur.....	2.25
M. E. 18, Heating and Ventilating—Carpenter.....	3.50
A. E. 10, Hand Book for Superintendence—Richey.....	3.50

DOMESTIC SCIENCE AND ARTS DIVISION**Freshman Year—Fall Term**

English 1a, Principles of Composition—Pearson.....	\$.50
English 1a, Myths of Greece and Rome—Guerber.....	1.50
English 1a, Macbeth—Shakespeare—Arden Edition.....	.25
English 1a, Poe's Poems and Tales—Riverside Literature Series.....	.15
Mathematics 1a, High School Algebra—Lennes & Slaught.....	.65
Mathematics 2a, Plane Geometry—Stone & Millis.....	.85
History 1a, Ancient History—West.....	1.50
Public Speaking 1a, Foundations of Expression—Curry.....	1.25

Winter Term

English 1b, Paragraph Writing—Scott & Denny.....	1.25
English 1b, Byron's Prisoner of Chillon—Riverside Literature Series.....	.15
English 1b, Arnold's Shorab and Rustum—Riverside Literature Series.....	.15
History 1b, History of Western Europe—Robinson.....	1.60

Spring Term

English 1c, Quentin Durward—Handy Pocket Classics.....	.25
English 1c, Each student is required to have a good dictionary.....	.00
Mathematics 2c, Solid Geometry—Stone & Millis.....	.85
Physics 1, First Course in Physics—Millikan & Gale.....	1.25
Botany 1, An Elementary Text—L. H. Bailey.....	1.10

Sophomore Year—Fall Term

English 2a, Specimens of Practical Composition—Nutter, Hersey & Greenough.....	1.25
English 2a, Romeo and Juliet—Shakespeare—Arden Edition.....	.25
German 1a, German Grammar—Paul V. Bacon.....	1.25
or Latin 1a, Gallic War—Caesar.....	1.25
Chemistry 1a, Inorg. Chem. for Beginners—Roscoe & Lunt.....	.75
Chemistry 1a, Elementary Principles of Chemistry—McFarland.....	1.00
Zoology 1, Manual of Zoology—Parker & Haswell.....	1.60

Winter Term

English 2b, Winter's Tales—Arden Edition.....	.25
Latin 1b, A Latin Grammar—Bennett.....	.80
Chemistry 1b, Quantitative Analysis—Green & Wandercleed.....	1.50
Domestic Science 2a, Elementary Domestic Science—Landes.....	.80
Domestic Arts 4, Textiles and Clothing—K. H. Watson.....	1.00

Spring Term

English 2c, Narrative Poems—Handy Pocket Classics.....	.25
English 2c, Stevens' "Kidnapped"—Handy Pocket Classics.....	.25
German 1c, Im Vaterland—Paul V. Bacon.....	1.25
or Latin 1c, Exercise Books—Doty.....	.85

Junior Year—Fall Term

English 3, Twelfth Night—Shakespeare—Rolfé Edition.....	.56
English 3, Hamlet—Shakespeare—Rolfé Edition.....	.56
Botany 10, Molds and Mildews—H. W. Conn.....	1.00
Physiology 1, Physiology—Brubaker.....	2.50
Domestic Science 4a, Elementary Principles of Economics—Ely & Wicker.....	1.25

Winter Term

English 4a, Development of the English Novel—Cross.....	1.50
Chemistry 4, Chem. of Cooking and Cleaning—Richards & Elliott.....	1.25
Public Speaking, Classics for Vocal Expression—Curry.....	1.25

Spring Term

Entomology 2, Elementary Studies of Insect Life—Hunter.....	1.25
Horticulture 9, Manual of Gardening—Edw. Kemp.....	1.50

Senior Year—Fall Term

English 5, Tennyson's Complete Poems—Globe Edition.....	1.50
Bacteriology 1, General Bacteriology—Jordan.....	2.25

Winter Term

English 6, British Poets of 19th Century—Page.....	2.00
Zoology 4, Embryology—Foster & Balfour.....	2.20
Pedagogy 2, History of Education—Monroe or Painter or other texts.....	1.50

Spring Term

English 7, Sartor Resartus—Carlyle.....	.80
Domestic Arts 12b, Domestic Arts in Woman's Education—Anna M. Cooley.....	1.25

SCIENCE AND LITERATURE AND TEACHERS' NORMAL DIVISIONS**Freshman Year—Fall Term**

English 1a, Principles of Composition—Pearson.....	.50
English 1b, Myths of Greece and Rome—Guerber.....	1.50
English 1a, Macbeth—Shakespeare—Arden Edition.....	.25
English 1a, Poe's Poems and Tales—Riverside Literature Series.....	.15
Mathematics 1a, High School Algebra—Lennes & Slaught.....	.65
Mathematics 2a, Plane Geometry—Stone & Millis.....	.85
History 1a, Ancient History—West.....	1.50
Public Speaking 1a, Foundations of Expression—Curry.....	1.25

Winter Term

English 1b, Paragraph Writing—Scott & Derry.....	1.25
English 1b, Byron's Prisoner of Chillon—Riverside Literature Series.....	.15
English 1b, Arnold's Shorab and Rustum—Riverside Literature Series.....	.15
History 1b, History of Western Europe—Robinson.....	1.60

Spring Term

English 1c, Quentin Durward—Handy Pocket Classics.....	.25
English 1c, Each student is required to have a good dictionary.....	.00
Mathematics 2c, Solid Geometry—Stone & Millis.....	.85
Physics 1, First Course in Physics—Millikan & Gale.....	1.25
Mathematics 1c, College Algebra—Rietz & Crathorn.....	1.50
or Botany 1, An Elementary Text—L. H. Bailey.....	1.10

Sophomore Year—Fall Term

English 2a, Specimens of Practical Composition—Nutter, Hersey & Greenough.....	1.25
English 2a, Romeo and Juliet—Shakespeare—Arden Edition.....	.25
Chemistry 1a, Inorg. Chem. for Beginners—Roscoe & Lunt.....	.75
Chemistry 1a, Elementary Principles of Chemistry—McFarland.....	1.00
Zoology 1, Manual of Zoology—Parker & Haswell.....	1.60
Agronomy 9, Elementary Agriculture—Warren.....	1.10
German 1c, German Grammar—Paul V. Bacon.....	1.25

Elective

Mathematics 3, Plane and Spherical Trigonometry—Ashton & Marsh.....	1.20
History 1c, History of Western Europe—Robinson.....	1.60
Latin 1a, Gallac War—Caesar.....	1.25
Botany 1b, Botany, An Elementary Text—L. H. Bailey.....	2.00
German 1a, German Grammar—Paul V. Bacon.....	1.25
Dairying 3, Principles and Pract. of Buttermaking—McKay & Larson.....	1.50

Winter Term

English 2b, Winter's Tales—Arden Edition.....	.25
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Chemistry 1 <i>b</i> , Quantitative Analysis—Green & Wandercleed.....	1.50
History 2, A Short History of England—Cheney.....	1.40
Domestic Science 2 <i>a</i> , Elementary Domestic Science—Landes.....	.80

Elective

Mathematics 4 <i>a</i> , Analytic Geometry—Tanner & Allen.....	2.00
Agronomy 10, An Introduction to Geology—Scott.....	2.60
Latin 1 <i>b</i> , A Latin Grammar—Bennett.....	.80
Domestic Science 2 <i>a</i> , Elementary Domestic Science—Landes.....	.80
Agronomy 2, Soils—Lyon & Teppin.....	1.75

Spring Term

English 2 <i>c</i> , Narrative Poems—Handy Pocket Classics.....	.25
English 2 <i>c</i> , Stevens' "Kidnapped"—Handy Pocket Classics.....	.25
German 1 <i>c</i> , 1 <i>m</i> Vaterland—Paul V. Bacon.....	1.25
History 3, History of the United States—Elsom.....	1.75

Elective

Mathematics 5, Elements of Astronomy—Young.....	1.60
Latin 1 <i>c</i> , Exercise Books—Doty.....	.85
German 1 <i>c</i> , 1 <i>m</i> Vaterland—Paul V. Bacon.....	1.25
Agronomy 4, Southern Field Crops—Duggar.....	1.75
Horticulture 2, Gardening for Profit—Peter Henderson.....	1.50

Junior Year—Fall Term

Required and Elective

English 3, Twelfth Night—Shakespeare—Rolfé Edition.....	.56
English 3, Hamlet—Shakespeare—Rolfé Edition.....	.56
German 2 <i>a</i> , Rubenzahl—Goebel.....	.45
Pedagogy 1, Psychology—James or Angell or other texts.....	1.50
Pedagogy 6, High School Teaching—Teaching of Mathematics—Young or other texts.....	1.50
Botany 2, Vegetable Physiology—J. R. Green.....	3.00
Chemistry 2, General Chemistry for Colleges—Alex. Smith.....	2.15
Chemistry 2, Quantitative Expts. in Gen. Chem.—Stoddard.....	1.00
Physiology 1, Physiology—Brubaker.....	2.50
Latin 2 <i>a</i> , Orations—Cicero.....	1.25
Social Science 2, Introduction to Economics—Seager.....	1.75
Mathematics 6, Infinitesimal Calculus—Murray.....	2.00
Physics 2, Electricity and Magnetism—Thompson.....	1.40
Dairying 1, Farm Dairying—John Michels.....	1.00
Public Speaking 2, Classics for Vocal Expression—S. S. Curry.....	1.25

Winter Term, Required and Elective

Pedagogy 2, History of Education—Monroe or Painter or other texts.....	1.50
English 4 <i>a</i> , Development of the English Novel—Cross.....	1.50
German 2 <i>b</i> , Die Journalisten—Frytag.....	.40
German 2 <i>b</i> , Hermann and Dorothea—Goethe.....	.60
Pedagogy 7, High School Administration—Hollister or other texts.....	1.50
Botany 4, Fungous Diseases of Plants—B. M. Duggar.....	2.00
Chemistry 7, Outlines of Organic Chemistry—Moore.....	1.50
Chemistry 7, Lab. Manual of Organic Chemistry.....	.35
Latin 2 <i>b</i> , Latin Composition—Daniell.....	1.00
Social Science 3, Trust Problems—Jenks.....	1.00
Physics 3, Sound and Light—Franklin.....	2.00
Botany 3, Principles of American Forestry—S. B. Green.....	1.50
Agronomy 2, Soils—Lyon & Teppin.....	1.75
Animal Husbandry 3 <i>a</i> , Principles of Breeding—Davenport.....	2.50
Zoology 2, Histology—Piersol.....	2.25

Spring Term, Required and Elective

Zoology 3, Cellular Biology—Wilson.....	2.25
Pedagogy 3, School Management—White or Dutton or other texts.....	1.50
English 4 <i>b</i> , Development of the English Novel—Cross.....	1.50
German 2 <i>c</i> , A Course in Scientific German—Hodges.....	.75
German 2 <i>c</i> , Wilhelm Tell—Schiller.....	.70
Pedagogy 8, School Supervision—Chancellor or other texts.....	1.50
Botany 5, New Manual of Botany—Gray (7th Ed.).....	2.50
Botany 4, Nursery Book—L. H. Bailey.....	1.60
Chemistry 10, Chem. of Plant and Animal Life—Snyder.....	1.40

Chemistry 10, Dairy Chemistry—Snyder.....	1.00
Chemistry 14, Scientific Foundations of Analytical Chemistry—Ostwald.....	2.00
Chemistry 14, Notes on Quantitative Analysis—Foulk.....	2.50
Latin 2c, A Term of Ovid—Gleason.....	.75
Social Science 4, Introduction Agricultural Economics—Taylor.....	1.25
Mathematics 5, Elements of Astronomy—Young.....	1.60
Civil Engineering 1a, Surveying Manual—Pence & Ketchum.....	2.00
Zoology 3, Cellular Biology—Wilson.....	2.25
Agronomy 4, Southern Field Crops—Duggar.....	1.75
Entomology 1, Elementary Studies of Insect Life—S. J. Hunter.....	1.25

Senior Year—Fall Term

Required and Elective

Pedagogy 4, How to Study—McMurray or other texts.....	1.50
Public School Music, Staff Notation, Books I, II, III—Batchelor & Chanabury.....	.45
Bacteriology 1, General Bacteriology—Jordan.....	2.25
English 5, Tennyson's Complete Poems—Globe Edition.....	1.50
German 3a, Der Kampf um Rom—Felix Dahn.....	.55
Latin 3b, Horace—Greenough's.....	.60
Social Science 1, Commercial Law—Gano.....	1.00
Social Science 5, Sociology—Dealey.....	1.50
Mathematics 7, Differential Equations—Murray.....	2.00
Chemistry 8a, Introduction to the Study of the Compounds of Carbon—Remsen.....	1.50
Chemistry 8a, Quantitative Analysis—Treadwell.....	4.00
Chemistry 15, Introduction to Physical Chemistry—Jones.....	1.50
Chemistry 15, Quantitative Analysis—Treadwell.....	4.00
Pedagogy 6, Teaching of Mathematics—Young or other texts.....	1.50
Entomology 3, Economic Entomology—J. B. Smith.....	2.50

Winter Term—Required and Elective

Pedagogy 5, Philosophy of Education—Horne or other texts.....	1.50
Pedagogy 7, High School Administration—Hollister or other texts.....	1.50
Bacteriology 2, Agricultural Bacteriology—Conn.....	1.60
Zoology 4, Embryology—Foster & Balfour.....	2.20
English 6, British Poets of the 19th Century—Page.....	2.00
German 3b, Deutsche Gedichte—Mueller.....	.45
German 3b, Soll and Haber—Freitag.....	.50
Latin 3b, Horace—Greenough's.....	.60
Social Science 6, Social Duties—Henderson.....	1.50
Entomology 4, Manual of Insect Life—J. H. Comstock.....	4.25
Agronomy 8a, Soil Fertility and Permanent Agriculture—Hopkins.....	2.25

Spring Term—Required and Elective

History 4, Oklahoma History—Thoburn & Holcomb.....	.60
Bacteriology 2, Agricultural Bacteriology—Conn.....	1.60
Bacteriology 3, Technical Bacteriology—Ricketts.....	1.70
Horticulture 3, Principles of American Forestry—S. B. Green.....	1.50
Horticulture 8, Landscape Gardening—Edw. Kemp.....	1.50
English 7, Sartor Resartus—Carlyle.....	.80
German 3c, Maria Stuart—Schiller.....	.90
German 3c, Populare Vortrage—Helmholtz.....	.55
Latin 3c, Livy—Greenough's.....	.40
Social Science 8, Federal State—Ashley.....	2.00
Social Science 7, Financial History of U. S.—Dewey.....	2.00
Chemistry 5, Quantitative Analysis—Treadwell.....	4.00
Pedagogy 8, School Supervision—Chancellor or other texts.....	1.50

BUSINESS DIVISION

Business Course—Fall Term

Bookkeeping, Modern Illustrative—Williams & Rogers.....	2.75
Spelling, Speller—John R. Gregg.....	.25
Penmanship, American Penman—A. N. Palmer.....	.50
English, Applied Business English—H. A. Hagar.....	1.10
Arithmetic, Arithmetic—Payne.....	.85
Commercial Law, Commercial Law—Hufcutt.....	1.00

Winter Term

Bookkeeping, Advanced Bookkeeping—Williams & Rogers.....	3.75
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Spring Term

Bookkeeping, Banking—Williams & Rogers.....	1.35
Business Correspondence—Business Methods—Teller & Brown.....	.75

Course in Stenography—Fall Term

Shorthand, Shorthand Manual—John R. Gregg.....	1.50
Shorthand Exercise Book—John R. Gregg.....	.50
Shorthand, Gregg Writer (Magazine)—John R. Gregg.....	.65
Typewriting, Rational Instructor—John R. Gregg.....	1.00
Penmanship—American Penmann—A. N. Palmer.....	.50
Spelling, Speller—John R. Gregg.....	.25
English, Applied Business English—H. A. Hagar.....	1.10

Winter Term

Shorthand, Dictation Book—W. C. Eldridge.....	.65
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Spring Term

Business Correspondence, Business Methods—Teller & Brown.....	.75
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Sub-Freshman Department—Fall Term

English, English Grammar—Gowdy.....	.80
Algebra, Algebra—Lennes & Slaught.....	.75
American History, Essentials of American History—Hart.....	1.50
or Latin, First Latin Book—Hale.....	1.00
Physiology, Advanced—Conn & Buddington.....	1.10
Spelling, Manual of Pronunciation—Ashmore.....	.30

Winter Term

English, Elementary Composition—Scott & Denny.....	.80
English, Practical English—Scott.....	.50
Civics, American Government—Ashley (Revised).....	1.00
Arithmetic, Advanced—Lyman.....	.75
Etymology, Text not selected.....	.00

Spring Term

English, Three Classics (to be selected) not to exceed.....	1.00
Physical Geography, Practical Physical Geography—Fairbanks.....	1.50

ALUMNI

ORGANIZATION FOR 1911-12

W. L. LAHMAN, '09, Stillwater.....	<i>President</i>
A. L. LOVETT, '08, Stillwater.....	<i>First Vice President</i>
LEE E. HILDEBRAND, '10, Pittsburg, Pa.....	<i>Second Vice President</i>
GEORGE W. HOOVER, '03, Washington, D. C.....	<i>Third Vice President</i>
R. E. ANDERSON, '08, Stillwater.....	<i>Secretary</i>
E. C. GALLAGHER, '09, Stillwater.....	<i>Treasurer</i>

The following is a list of the graduates of the College by classes, and in each case the address and occupation is given as correctly as the Secretary's records show. It is especially desired that all graduates advise the Secretary of changes of address and occupation.

1896

Arthur W. Adams, Real Estate Agent.....	Ardmore, Okla.
J. Homer Adams, Real Estate Agent.....	Ardmore, Okla.
Frank E. Duck, Farmer.....	Stillwater, Okla.
A. Edward Jarrell, Santa Fe System.....	Pueblo, Colo.
Erwin G. Lewis, Vice President Ramona State Bank.....	Ramona, Okla.
Oscar M. Morris, Professor of Horticulture, A. & M. College.....	Pullman, Wash.

1897

Jessie O. (Thatcher) Bost, at Home.....	Alva, Okla.
George W. Bowers, Railway Conductor.....	Enid, Okla.
Andrew N. Caudell, Entomologist, Department of Agriculture.....	Washington, D. C.

1898

John T. Clark, Treasurer of Mindanao Province.....	Cagayon, Philippine Islands
Augustus G. Ford, Real Estate Agent.....	Muskogee, Okla.
Norris T. Gilbert, Banker.....	Lawton, Okla.
Thos. J. Hartman, Banker.....	Sulphur, Okla.
Clinton Morris, Iron Foundry Chemist.....	Goodrich, Tenn.
Emma H. (Swope) Dolde, at Home.....	Leavenworth, Kan.
Blanche (Wise) Diggs, at Home.....	Stillwater, Okla.

1899

Noah P. Bullock, Teacher.....	Stillwater, Okla.
Clarence R. Donart, Bank Cashier.....	Altus, Okla.
Minnie A. (Dysart) Teter, at Home.....	Bristow, Okla.
Francis M. Greiner, Chemist Iron Works.....	Ensley, Ala.
Cora A. Miltimore, Librarian A. & M. College.....	Stillwater, Okla.

S. Earl Myers, Real Estate Agent.....	Guthrie, Okla.
Arthur B. McReynolds, Publisher and Editor.....	King City, Calif.
*Charles E. Regnier.....	Stillwater, Okla.

1900

A. W. Anderson, Lawyer.....	Woodward, Okla.
Cora M. (Donart) Coffey, at Home.....	Lawton, Okla.
Thomas T. Goff, Instructor in Gem City Business College.....	Quincy, Ill.
John S. Malone, Farmer.....	Glencoc, Okla.
*Louis C. Miller.....	Denver, Colo.
George W. Stiles, (M. D., George Washington University) Bureau of Chemistry, Department of Agriculture.....	Washington, D. C.

1901

B. Bradford Hurst, Hospital Stewart, U. S. Navy.....	Washington, D. C.
Kate A. Jewett, Principal High School.....	Udall, Kan.
Charles L. Kezer, Superintendent of City Schools.....	Stillwater, Okla.
Arthur C. Lewis, Assistant State Entomologist.....	Atlanta, Ga.
Velma (Walker) Swinford, at Home.....	Stillwater, Okla.
*Deceased.	

1902

A. Bondy Anderson, Chief Inspector Motive Power Department, Santa Fe Railway System.....	Topeka, Kan.
Sarah S. Carson, Hardware Business.....	Perkins, Okla.
A. Warren Flower, Railway Service.....	Deer Creek, Mont.
A. Gertrude Hunt, Instructor Durant Normal.....	Durant, Okla.
George M. Janeway, Cashier, Bank of Skiatook.....	Skiatook, Okla.
Charles V. Jones, Lawyer.....	Clay Center, Kan.
Ralph Kratka.....	Rocky Ford, Colo.
Chester H. Lowry, Lawyer.....	Stillwater, Okla.
Samuel A. McReynolds, Professor of Chemistry, Emory-Henry College.....	Emory, Va.
Monroe J. Otey, Banker.....	Frankfort, Okla.
Howard F. Pigg, Electrical Engineer, Wetterbee, Sherman & Co.....	Mineville, N. Y.
Frank L. Rector (M. D., George Washington University), Bacteriologist, Great Bear Spring Co.....	Brooklyn, N. Y.
R. Rex Shively, Bureau of Chemistry.....	Washington, D. C.
Charles E. Smeltzer, Student, Rush Medical College.....	Chicago, Ill.
Ethel V. Walker, Teacher.....	Chickasha, Okla.
Belle Walker, at Home.....	Stillwater, Okla.
Marion M. Woodson, with State Board of Agriculture.....	Oklahoma City.
Wallace T. Thornberry, Building Contractor.....	Kansas City, Mo.

1903

John J. Brown, Erecting Engineer for Westinghouse Electric Co.....	Chicago, Ill.
Horace S. Gulick, Chief Chemist, American Steel Foundries.....	East St. Louis, Ill.
George W. Hoover (M. D., George Washington University), Assistant in Bureau of Chemistry.....	Washington, D. C.
R. Morton House, Erecting Engineer for Westinghouse Electrical & Manufactur- ing Co.....	Pittsburg, Pa.
Mamie G. Houston, High School Instructor.....	Albany, Ore.
Nina B. (Hurst) Suits.....	Beeville, Texas.
Mary (Jarrell) Hartman, at Home.....	Sulphur, Okla.
Ransom S. Kenyon, Electrician for New Orleans Ry. & St. Co.....	New Orleans, La.
Robert H. Kerr, Chemist, Department of Agriculture.....	Washington, D. C.
Wm. E. Kinder, Professor of Mathematics and English, Connell State School of Agriculture.....	Helena, Okla.
Henry J. Lincoln, Inspector, Motive Power Department, Santa Fe Railway System.....	Wilksburg, Pa.
Henry F. McBride, Superintendent Guanajuato Power & Electric Co.....	Guanajuato, Mexico
Maud I. Miller, at Home.....	Beeville, Texas
*Charles E. Morrow.....	Stillwater, Okla.
Jessie E. (Morrow) Watkins, at Home.....	North End, Okla.
Mary A. (Nielson) Taylor, at Home.....	Perry, Okla.
Stella C. Nelson, Druggist.....	Washington, D. C.
Lila E. (Nelson) Chandler, Pharmacist.....	Washington, D. C.

Cyrus W. Nelson, Druggist	Washington, D. C.
Esther A. North, at Home	Geary, Okla.
Abbott G. Robinson, Assayer	Tecopa, Calif.
Bertha M. Ruble, Professor of Domestic Science, Ada Normal School	Ada, Okla.
Florence K. Walker, Stenographer	Oklahoma City, Okla.

1904

Renzo D. Bowers, Lawyer	Roswell, N. Mex.
Frederick F. Chandler, Assistant Master Mechanic, Bethlehem Steel Co.	South Bethlehem, Pa.
Samuel B. Durham, Professor Animal Husbandry, Agricultural College	Los Banos, La Laguna, P. I.
J. Carleton Gilbert, Professor in Government Schools	Shanghai, China
Porter N. Guynn, Inspector, Civil Engineering Department, Illinois Steel Co.	Brooklyn, N. Y.
Clyde M. Hamblin, General Electric Co.	Brooklyn, N. Y.
Edward L. Jones, Manager, Columbus Electric Car Co.	San Francisco, Calif.
John W. Kidd, Associate Professor of Physics, Texas A. & M. College	College Station, Texas
Amos E. Lovett, Special Agent, Farmers' Cooperative Demonstration Work	Checotah, Okla.
Vern Marple, Bank Cashier	Meade, Okla.
John F. McBride, Guanajuato Power & Electric Co.	Guanajuato, Mexico.
Bernice Morgan, at Home	Casper, Wyoming.
Abigail E. Nelson, Art Student	Washington, D. C.
Harry I. Stevens, Jr., Chemist, Starch Works	Chicago, Ill.
Wm. A. Tarr, Instructor in Economic Geology, University of Missouri	Columbia, Mo.
Maude E. (Thouroughman) Williams, at Home	Perkins, Okla.
Joseph W. Thornberry, Buttermaker, Townsend Creamery	Astoria, Ore.
Wayne B. Walker, at Home	Stillwater, Okla.
Alpheus C. Withers, Dentist	Glencoe, Okla.
George F. Wickle, Railway Equipment Engineer, General Electric Co.	Schenectady, N. Y.

1905

Hermond L. Ball, Westinghouse Electric Co.	Cincinnati, Pa.
Robert I. Bilyeu, Superintendent of Schools	Cushing, Okla.
Frank R. Blue, Farmer	Cushing, Okla.
Kore E. Broom, Teacher	Perkins, Okla.
Wm. L. Burlison, Associate Editor, North Western Farmer	Spokane, Wash.
Roy E. Burnett, Assistant in Bacteriology, Department of Agriculture	Washington, D. C.
Harry Comstock, Assistant General Manager, Witherbee, Sherman & Co.	Mineville, N. Y.
Wm. L. English, Department Cooperative Demonstration Work, U. S. Department of Agriculture	Washington, D. C.
Andrew C. Hartenbower, Assistant Professor of Agronomy, A. & M. College	Stillwater, Okla.
Alice A. Hastings, Teacher	Anadarko, Okla.
G. Ernst, Hines, Supervising Engineer, Burns & McDonnell	Kansas City, Mo.
John C. Johnstone, Teacher	Lawton, Okla.
Elmer J. Knauss, Drug Clerk	Kansas City, Mo.
John A. Nelson, Lawyer	Washington, D. C.
Carrie E. Lewis, Teacher City Schools	Stillwater, Okla.
Walter S. Rush, General Manager International Marine Indicator Co.	New York, N. Y.
John A. Spalding, Farmer	North Enid, Okla.
Lola M. (Tankersley) McAninch, at Home	Okence, Okla.
Raymond C. Wiley, Assistant Station Chemist	Marhattan, Kan.
J. Earl Woodworth, U. S. Department of Agriculture	Guthrie, Okla.

1906

Mary B. Atkinson, High School Instructor	Stillwater, Okla.
Gertrude M. Braden, Professor of Domestic Science, Haskell State School of Agriculture	Broken Arrow, Okla.
Charles W. Brown, Assistant Bacteriologist, Experiment Station	Agricultural College, Mich.
Emma A. Chandler Professor of Domestic Science and Arts, Murray State School of Agriculture	Tishomingo, Okla.
Arthur C. Clark, General Electric Co.	Minneapolis, Minn.
Dovie V. Eberle, Professor Domestic Science, University Preparatory School	Tonkawa, Okla.

Carl E. Howell, Chief Operator's Office, P. L. & P. Co.	Los Angeles, Calif.
Theo. M. (Lowery) McKee, at Home.	Independence, Kan.
Clarence H. McElroy, Assistant in Veterinary Science, A. & M. College.	Stillwater, Okla.
Bertha Miller, at Home.	Beeville, Texas.
Fred B. Olentine, Student, Rush Medical College.	Chicago, Ill.
John C. Osborn, Operator, Hudson River Power Co.	Amsterdam, N. Y.
Grace E. Semke, Teacher.	Covington, Okla.
*Stewart G. Smith.	Stillwater, Okla.
Veda R. Walker, Instructor in Kansas University.	Lawrence, Kan.
Jame Wilson, Assistant in Bacteriology, Experiment Station.	Geneva, N. Y.

1907

Ruth R. (Bras) Owens, at Home.	Tulsa, Okla.
Ross, L. Carson, Hardware Business.	Perkins, Okla.
Bertha M. Chester, Teacher City Schools.	Stillwater, Okla.
Elmer E. Dougan, General Electric Co.	Pittsfield, Mass.
Maude M. English, at Home.	Stillwater, Okla.
Avery V. Hancock, Manager of Oklahoma Office, General Electric Co.	Oklahoma City, Okla.
Charles E. Hoke, Office of Farm Management, U. S. Department of Agriculture	Oklahoma City, Okla.
Harry G. Hoke, Salesman Westinghouse Electric Co.	Wilkinsburg, Pa.
Arthur G. Lantz, Farmer.	Willows, Calif.
Calvin R. Lantz, Westinghouse Electric & Manufacturing Co.	Seattle, Wash.
Edwina (Morrison) Berry, at Home.	Stillwater, Okla.
Bonnie Newcomb, Teacher.	Orin, Wash.
Hattie I. Oschman, Teacher.	Walter, Okla.
J. Anderson Ratcliff, University of Nebraska.	Lincoln, Neb.
Charles T. Reeve, General Electric Co.	Oklahoma City, Okla.
Henry W. Reeve, Farmer.	Choctaw, Okla.
Jeanette I. Taylor, Professor of Domestic Science, Connell State School of Agriculture.	Helena, Okla.
Pearl L. Wiar, Stenographer.	Oklahoma City, Okla.

1908

Rex E. Anderson, Registrar, A. & M. College.	Stillwater, Okla.
Robert O. Baird, Assistant Station Chemist, A. & M. College.	Stillwater, Okla.
Paul Bennett, Plumber.	Stillwater, Okla.
Albert L. Boley, Engineer.	Fairview, Okla.
Frank J. Clark, Circulation Manager, Oklahoma Farm Journal.	Oklahoma City, Okla.
Frank Cole, Farmer.	Pawnee, Okla.
Victor H. Francis, Superintendent City Light & Power Plant.	Kingfisher, Okla.
Ernest H. Gager, Commonwealth Edison Electric Co.	Chicago, Ill.
Fannie Hamon, Professor Domestic Science, City Schools.	Guthrie, Okla.
Frank A. Hays, Farmer.	Judith Gap, Mont.
D. Lynn Holmes, Physical Director and Professor of History, Bethel College.	Russellville, Ky.
O. Wendell Holmes, Real Estate Business.	Stillwater, Okla.
Lenore R. Janeway, Teacher of Domestic Science, City Schools.	Ramona, Okla.
Clarence R. Letteer, Professor of Agriculture, Haskell State School of Agriculture	Broken Arrow, Okla.
A. Lester Lovett, Assistant Entomologist, A. & M. College.	Stillwater, Okla.
James G. McCall, Farmer.	Vienna, Ill.
Pliny E. Means, Engineer.	Hurley, New Mexico.
Albert I. Moore, Chiropractor.	Wellington, Kan.
Raymond H. Moore, Real Estate and Loans.	Stillwater, Okla.
Oliver T. Peck, Book Business.	Stillwater, Okla.
Ida M. (Stover) Gougler, at Home.	Warner, Okla.
Clarence A. Wood, Farmer.	Perry, Okla.
Ed Znamenacek, Commonwealth Edison Electric Co.	Chicago, Ill.

1909

Maurice R. Bentley, Farmer.	Charley, Texas.
True C. Blue, Bagnall & Hilles.	Yokohama, Japan.
Harry C. Boutin, Chief Operator Commonwealth Edison Electric Co.	Chicago, Ill.
Olive B. Bradwell, at Home.	Mulhall, Okla.

* Deceased.

Clarence K. Bullen, Lumber Business	Stillwater, Okla.
Markus P. Burke, Civil Engineer	Salt Lake City, Utah.
Orpha M. (Caton) Young, at Home	Warner, Okla.
Homer U. Clonkey, Assistant Chemist Morris Packing Plant	Oklahoma City, Okla.
Charles W. Crawford, Assistant Station Chemist, A. & M. College	Pullman, Wash.
Glenn M. Gaasch, Gulf Pipe Line Co.	Tulsa, Okla.
Edward C. Gallagher, Assistant Physical Director, A. & M. College	Stillwater, Okla.
Frank A. Gougler, Agriculturist, Connors State School of Agriculture	Warner, Okla.
Joy B. Hancock, Professor of Domestic Science, Oklahoma Industrial Institute	Chickasha, Okla.
Ora L. Hemphill, Professor of Manual Training, University Preparatory School	Tonkawa, Okla.
Fred H. Ives, Special Agent U. S. Department of Agriculture in Farmers' Cooperative Demonstration Work	Porter, Okla.
Norma N. Johnson, Bookkeeper	Stillwater, Okla.
Cecil I. Kirkpatrick, Professor of Domestic Science, Cameron State School of Agriculture	Lawton, Okla.
Wilbur L. Lahman, Ice Business	Stillwater, Okla.
Ray V. Lindsey, Moore & McClure Engineering Co.	Oklahoma City, Okla.
Lloyd C. Mitchell, Laboratory Helper, Bureau of Chemistry	Washington, D. C.
Samuel L. McMullin	Manchester, Okla.
William H. McPheeters, Assistant Professor of Physics, A. & M. College	College Station, Texas.
Ollie Needham, Westinghouse Electric & Manufacturing Co.	Pittsburg, Ia.
Mamie Springer, at Home	Cushing, Okla.
Albert A. Stebbins, Farmer	Garber, Okla.
Robert R. Stebbins, Farmer	Enid, Okla.
Forest L. Stewart, Texas Pipe Line Co.	Tulsa, Okla.
Nannie Stover, Teacher City Schools	Bartlesville, Okla.
J. Arnold Tate, Professor of Mathematics & Manual Training, State Secondary Agricultural School	Monticello, Ark.
Bonnie R. Tillotson, Hospital Nurse	Shreveport, La.
Herbert L. Treeman, Student's Course Western Electric Co.	Chicago, Ill.
Mabelle L. Wise, at Home	Stillwater, Okla.

1910

H. S. Allen, Civil Engineer	Joplin, Mo.
H. J. Baade, High School Instructor	Big Timber, Mont.
W. E. Camp, General Electric Co.	Schenectady, N. Y.
Roy E. Clausen, Student	Berkley, Calif.
N. M. Faulds, General Electric Co.	Schenectady, N. Y.
J. Guy Fisher, Engineer, Union Development Co.	Andrews, N. C.
Fred P. Funda, Rock Island Railroad Co.	El Reno, Okla.
Robert J. Gammie, Civil Engineer	Texarkana, Texas.
Floyd Gollehon, High School Instructor	Poteau, Okla.
Hyral Hagar, Teacher City Schools	Stillwater, Okla.
J. Homer Hamilton, Assistant Chemist and Instructor of Animal Nutrition, Pennsylvania State College	State College, Pa.
F. C. Hamilton, Drug Clerk	Stillwater, Okla.
Chester A. Hamon, Westinghouse Electric & Manufacturing Co.	Wilkinsburg, Pa.
Lee E. Hildebrand, Apprentice Westinghouse Electric & Manufacturing Co.	Pittsburg, Pa.
Willis A. Hubler, Instructor in High School	Jackson, Minn.
C. Shelly Jones, Allis-Chalmers Co.	Norwood, Ohio.
R. E. Kenyon, General Electric Co.	Schenectady, N. Y.
Beverly D. King, Houston, Galveston Interurban Co.	La Port, Texas.
V. Victoria Kirkpatrick, Assistant Librarian, A. & M. College	Stillwater, Okla.
E. Ralph Kookan, Instructor in Agriculture and Science, Bonham High School	Bonham, Texas.
Myrtle I. Lewis, at Home	Stillwater, Okla.
Iva A. McBride, Assistant in Domestic Science, A. & M. College	Stillwater, Okla.
Truman P. Moote, Engineer	El Campo, Texas.
Leo M. Neuman, Civil Engineer, A. T. & S. F. Ry. Co.	Newton, Kan.
Archie C. Oursler, Alta Vista Creamery Co.	Fort Worth, Texas.
Roy A. Pochel, Instructor in Civil Engineering, Perdue University	West Lafayette, Ind.
Lawellyn B. Ritter, Teacher	Mondamin, Okla.
Almira B. Rogers, Professor of Domestic Science, Connell State School of Agriculture	Helena, Okla.
Frank J. Selement, Oklahoma Street Railway Co.	Oklahoma City, Okla.
Annie M. Shaw, High School Instructor	Mill Creek, Okla.
C. Ray Smith, Real Estate & Loan Business	Stillwater, Okla.
Harry B. Spaulding, High School Instructor	Huron, South Dakota.

John M. Speidel, Student.....	Corvallis, Ore.
Ralph E. Spohn, Edison Commonwealth Electric Co.....	Chicago, Ill.
Otto T. Straub, Agriculturist, Panhandle Agricultural Institute.....	Goodwell, Okla.
Nora A. Talbot, Teacher, City Schools.....	Nowata, Okla.
Frank J. Tibbetts, Apprentice Westinghouse Electrical & Manufacturing Co.....	Wilkinsburg, Pa.
Earl E. Vezey, Instructor Connell State School of Agriculture.....	Helena, Okla.
Marguerite P. Walters, Professor of Domestic Science, Panhandle Agricultural Institute.....	Goodwell, Okla.
Minnie D. Walters, Assistant in Domestic Science, Haskell State School of Agriculture.....	Broken Arrow, Okla.
Robert O. Watrous, Jewelry Business.....	Broken Arrow, Okla.
Doris Wills, Westinghouse Electric & Manufacturing Co.....	Pittsburg, Pa.
Guy P. Williams, Commonwealth Edison Electric Co.....	Chicago, Ill.
Harry E. Wilson, Contractor.....	Winfield, Kan.
Clyde M. Woodworth Assistant Agriculturist.....	Brookings, S. Dak.
Wayne H. Worthington, J. I. Case Threshing Machine Co.....	Odessa, Russia.

ROLL OF STUDENTS

Seniors

Aikins, Evelyn M.	Domestic Science and Arts	Stillwater.
Albright, J. Warden	Engineering	Perkins.
Blackwell, Carl P.	Science and Literature	Floydada, Texas.
Bonnett, Howard E.	Science and Literature	McLoud.
Breuer, Emerich H.	Engineering	El Reno.
Bullen, Bernard C.	Science and Literature	Stillwater.
Burke, William J.	Engineering	Stillwater.
Carter, William C.	Engineering	Glencoe.
Casali, Louise	Domestic Science and Arts	Guthrie.
Chivington, Anna L.	Domestic Science and Arts	Stillwater.
Davis, R. Norman	Agricultural	Stillwater.
Dorman, Will S.	Engineering	Pond Creek.
Frier, Clarence H.	Engineering	Sulphur.
Galyon, Edgar O.	Engineering	Lawton.
Gardner, Frank	Engineering	Gray Horse.
Hall, Roy V.	Engineering	Buchannon, W. Va.
Hamon, Robert J.	Science and Literature	Stillwater.
Harvey, Carl F.	Engineering	Stillwater.
Hiet, Melvin E.	Engineering	Stillwater.
Hoke, George A.	Science and Literature	Quay.
Hoppe, Carl W.	Engineering	Lawton.
Jessee, Walter B.	Agricultural	Supply.
Kirkpatrick, Katie C.	Science and Literature	Stillwater.
Leicht, Harry S.	Engineering	Hillsdale.
McArthur, Clifford L.	Science and Literature	Stillwater.
McBride, John D.	Science and Literature	Stillwater.
McIntyre, Jesse C.	Engineering	Stillwater.
McKay, M. Bert	Teachers' Normal	Lawton.
McPheeters, Margaret	Teachers' Normal	Stillwater.
Mayall, Samuel J.	Engineering	Edmond.
Moore, Allen J.	Science and Literature	Gower, Mo.
Moskedal, Olga	Domestic Science and Arts	Guthrie.
Regnier, Miles A.	Engineering	Ponca.
Reed, Fred	Engineering	Oklahoma City.
Ross, Sam I.	Engineering	Cane Hill, Ark.
Schnurr, Cornelius	Engineering	Orlando.
Shiffett, Roger C.	Agricultural	Duncan.
Smith, Joe G.	Agricultural	Dallas, Texas.
Stewart, Annabel	Science and Literature	Stillwater.
Trueax, Clyde P.	Engineering	Pond Creek.
Watson, Dallas H.	Engineering	Chandler.
Wikle, Hugh H.	Engineering	Orlando.
Wilson, Clay E.	Teachers' Normal	Stillwater.
Winters, N. Elmer	Agricultural	Stillwater.

Juniors

Bartlett, Ellsworth C.	Agricultural	Mannford.
Bartlett, Edward E.	Science and Literature	Mannford.
Birmingham, Robert C.	Agricultural	Galveston, Texas.
Buchanan, W. Archie	Agricultural	Stillwater.
Buffington, Betha	Domestic Science and Arts	Stillwater.
Correll, Vincent L.	Science and Literature	Stillwater.
Cory, John M.	Science and Literature	Mulhall.
Diehl, Clarence J.	Engineering	Mulhall.
Dolde, W. Earl	Engineering	Guthrie.
Drake, Treharn J.	Science and Literature	Stillwater.
Duck, Thomas W.	Engineering	Keystone.
Evans, A. Ray	Agricultural	Stillwater.
Friday, Almira P.	Domestic Science and Arts	Stillwater.
Frenzel, Harry H.	Engineering	Sentinel.

Gaudian, Will	Engineering	Dallas, Texas.
Goom, Austin	Science and Literature	Stillwater.
Gray, William F.	Agricultural	May.
Gregory, Howard W.	Agricultural	Apache.
Harnden, Edward E.	Science and Literature	Stillwater.
Hartshorn, Eugene C.	Engineering	Ponca.
Herrick, Harlan C.	Engineering	Enid.
Hill, Vera Mae	Science and Literature	Stillwater.
Hobbs, Hugh	Engineering	Capitol Hill.
Hoke, Mac	Agricultural	Quay.
Jeffords, Sherman L.	Agricultural	Stillwater.
Johnson, Stephen B.	Agricultural	Ada.
Kester, Milton R.	Engineering	Enid.
Kilpatrick, Earl	Engineering	Hunter.
Knoblock, Fred L.	Engineering	Stillwater.
Lovell, Thomas J.	Engineering	Stuart.
Lowman, Edward F.	Science and Literature	Billings.
Lynch, Harold W.	Engineering	Hennessey.
McCasin, Woodford W.	Engineering	Stillwater.
McPheeters, Archie A.	Agricultural	Stillwater.
Merydith, Clarence S.	Agricultural	Stillwater.
Nellis, Wayne H.	Engineering	Pawnee.
Neuman, Iva F.	Domestic Science and Arts	Stillwater.
North, Kate	Domestic Science and Arts	Tulsa.
Painter, Ray H.	Science and Literature	Stillwater.
Payne, Loyal F.	Agricultural	Shawnee.
Potts, Frank M.	Agricultural	Stillwater.
Priest, Stella I.	Science and Literature	Saletha, Kansas.
Rudd, E. Lynn	Engineering	Tulsa.
Shallenberger, Garvin D.	Science and Literature	Weleetka.
Shiflett, Herbert D.	Agricultural	Duncan.
Swope, Harold	Engineering	Stillwater.
Talbot, Alfred E.	Agricultural	Stillwater.
Tillotson, Albert K.	Science and Literature	Stillwater.
Tongue, George F.	Engineering	Dallas, Texas.
Vandervoort, Levi A.	Engineering	Bison.
Webb, Arthur E.	Agricultural	Mountain Park.
Wildman, Arthur H.	Engineering	Geary.
Wright, Louise	Teachers' Normal	Stillwater.

Sophomores

Albert, Harold R.	Science and Literature	Stillwater.
Bonar, H. Turley	Engineering	Prague.
Bowers, Charles	Agricultural	Stillwater.
Brian, Naomi	Domestic Science and Arts	Newkirk.
Brodell, Arthur C.	Teachers' Normal	Keystone.
Brooke, Hazel	Science and Literature	Perkins.
Brown, Cornelius B.	Agricultural	Spearmore.
Buddy, Edward L.	Science and Literature	Dallas, Texas.
Cameron, Evan D.	Engineering	Guthrie.
Campbell, Viola	Domestic Science and Arts	Guthrie.
Clark, Charles L.	Science and Literature	Stillwater.
Clark, James A.	Agricultural	Stillwater.
Clausen, Beryl O.	Engineering	Stillwater.
Clingenpeel, Elver G.	Engineering	Stillwater.
Cobb, Arthur L.	Engineering	Eddy.
Cobb, Mary	Domestic Science and Arts	Wagoner.
Coburn, Carroll	Engineering	Okarche.
Comegys, Helen	Domestic Science and Arts	Ash Grove, Mo.
Comegys, Stella	Domestic Science and Arts	Ash Grove, Mo.
Comstock, Frank	Engineering	Stillwater.
Cook, Harold P.	Engineering	Guthrie.
Cox, Mary E.	Domestic Science and Arts	Stillwater.
Dale, Ernest B.	Engineering	Headrick.
Denham, Ralph R.	Engineering	Oklahoma City.
Ent, Morton	Agricultural	Helena.
Epperson, Jess H.	Engineering	Anadarko.
Evans, Ruby E.	Science and Literature	Collinsville.
Fansher, Ralph A.	Agricultural	Edmond.
Fansher, Ted F.	Agricultural	Edmond.
Fix, Fred I.	Agricultural	Stillwater.
Ford, John B.	Engineering	Stillwater.
Ford, William W.	Engineering	Stillwater.
Fulton, William L.	Engineering	Sulphur.

Gilmer, Thomas P.	Engineering	Ardmore.
Gravelle, Edward E.	Engineering	Olustee.
Green, Brook	Engineering	Pawnee.
Griggs, Oscar C.	Science and Literature	Dale.
Hamilton, Fearn	Science and Literature	Stillwater.
Hann, Fred R.	Engineering	Pawnee.
Harrison, L. D.	Science and Literature	Sayre.
Harrison, Robert L.	Engineering	Stillwater.
Harvey, John W.	Engineering	Stillwater.
Hedger, Howard R.	Agricultural	Hooker.
Hicks, Homer W.	Engineering	Bluejacket.
Jacob, Arthur W.	Agricultural	Stillwater.
Jacob, Lewis O.	Agricultural	Stillwater.
James, Colum P.	Agricultural	Stillwater.
Krepps, Samuel O.	Agricultural	Thomas.
Krail, John A.	Engineering	Stillwater.
Krone, Floy C.	Teachers' Normal	Sparks.
Lawellin, Robert C.	Engineering	Stillwater.
Lindsey, Stella	Domestic Science and Arts	Kingfisher.
Losey, Portia M.	Domestic Science and Arts	Los Angeles, California.
Lowery, Ethel E.	Domestic Science and Arts	Stillwater.
Lyons, Stewart H.	Engineering	Tulsa.
McCollum, Ethel	Science and Literature	Lone Wolf.
McFetridge, Lyle W.	Engineering	Guthrie.
McIlvain, Charles	Agricultural	Ponder, Texas.
McLelland, William	Agricultural	Stillwater.
Melton, Wendell A.	Engineering	Goltry.
Merrifield, Fred R.	Agricultural	Enid.
Merrill, Arthur J.	Engineering	Stillwater.
Miller, William S.	Science and Literature	Oklahoma City.
Milner, George R.	Engineering	Oklmulgee.
Mitschrich, Melville F.	Engineering	Lawton.
Neerman, Claud	Engineering	Tulsa.
Nicholson, Charley H.	Engineering	Altus.
Oschman, Maude	Science and Literature	Stillwater.
Oursler, Elizabeth	Science and Literature	Stillwater.
Peck, Harold L.	Engineering	Clinton.
Preston, Charles R.	Engineering	Spiro.
Reid, Grace M.	Domestic Science and Arts	Muskogee.
Reynolds, Oris H.	Engineering	Oklahoma City.
Rhoads, Tilford W.	Engineering	Davidson.
Richards, Hattie	Domestic Science and Arts	Stillwater.
Roberson, Augusta M.	Domestic Science and Arts	Newkirk.
Robinson, George B.	Agricultural	Sapulpa.
Rogers, Guy F.	Science and Literature	Ames.
Ryno, Madeline	Domestic Science and Arts	Stillwater.
Santee, Leonard A.	Engineering	Goltry.
Schein, William	Agricultural	Richland.
Sieglinger, John	Agricultural	Lone Wolf.
Smith, J. Allen H.	Agricultural	Dallas, Texas.
Smith, John G.	Science and Literature	Chickasha.
Smith, Marion C.	Engineering	Tulsa.
Smith, R. Reese	Science and Literature	Chickasha.
Snyder, Georgia	Domestic Science and Arts	Stillwater.
Spear, Mary	Science and Literature	Stillwater.
Stevens, Margaret	Science and Literature	Norborne Mo.
Trent, Dover P.	Science and Literature	Stigler.
Tucker, Charles M.	Engineering	Sulphur.
Utt, Orville G.	Engineering	Elk City.
Wagner, Theodore J.	Engineering	Lindsay.
Walters, Julia	Domestic Science and Arts	Stillwater.
Washburn, Daniel W.	Agricultural	Oklahoma City.
Watson, Wayne E.	Agricultural	Stillwater.
Weaver, George E.	Agricultural	Stillwater.
Wells, Dean S.	Science and Literature	Stillwater.
Wells, Edmund	Engineering	Kingfisher.
White, Harry H.	Engineering	Oklahoma City.
Whiteside, Arthur	Agricultural	Nixon.
Williams, Roger L.	Agricultural	Stillwater.
Williamson, Carrie	Domestic Science and Arts	Stillwater.
Wilson, Charles L.	Engineering	Henryetta.
Wood, Jackson B.	Engineering	Enid.
Worley, Florence	Domestic Science and Arts	Stillwater.
Wright, Harley M.	Engineering	Cashion.

Freshman

Abbott, Boyd A. V., Wann
Albright, Gae I., Stillwater
Allen, Floyd, Stillwater

Baker, De Larue, Mannford
Baker, Nannie E., Douglas
Barnes, H. Dale, Cereal
Bellis, Ida O., Stillwater
Blackwell, Floyd W., Stillwater
Bickly, Edgar, Altus
Blosser, Frank R., Elmwood

Campbell, Rhea S., Guthrie
Carle, Thomas R., Oklahoma City
Chadd, Ralph H., Goltry
Chilcote, Pearl, Perkins
Cinnamon, Roland E., Garber
Clark, Joc, Chelsea
Clausen, Nellie, Stillwater

Danforth, F. C., Granger, Texas
Davis, Walter W., Stillwater
DeBord, George W., Stillwater
DeMunbrun, H. C., Greenfield
DeMunbrun, Jennie, Greenfield
Dillard, Jim, Tulsa

Evans, Lucile E., Collinsville

Ferguson, Fred L., Pawhuska
Forrester, Dick R., Stratford
Foster, Nellie, Stillwater

Gammie, Thomas, Stillwater
Gay, Elgin C., Stillwater
Gipe, Romney, Perry
Goodman, W. Archie, Stillwater

Hagar, W. Edgar, Stillwater
Hamblin, Carrie, Stillwater
Hart, Haden B., Mangum
Havenstrite, Ralph W., Lovell
Heierding, Henry, Oklahoma City
Henley, Emmett A., Bluejacket
Henley, Prentice, Bluejacket
Hennigh, Fred R., Stillwater, Texas
Herndon, May, Garvin
Herron, Leonard G., Maeystown, Ill.
Hiet, Sadie, Stillwater
Hinton, Roy, Poteau

James, Helen, Stillwater
Janeway, Helen, Stillwater
Janeway, Lemley, Broken Arrow
Jeffords, Mary, Stillwater
Johnson, Lawrence, Stillwater

Kenyon, Lucille, Kaw City
Kimball, Harry H., Stillwater

Lawhead, Don P., Mountain View
Lay, Belle F., Luther
Lay, Walter P., Luther

McBride, Pearl K., Stillwater
McCaslin, Don, Stillwater
McClure, Marguerite S., N. McAlester
McGinty, George E., Stillwater
McLelland, Mathilde, Stillwater
McRoberts, Velma R., Stillwater
Marker, Walter, Orlando
Marsh, Venus L. Arapaho

Neuman, Eleanor, Stillwater

Allen, James W., Chouteau
Anderson, Albert A., Enid
Andrews, Leonard R., Stillwater

Board, Orren, Stillwater
Braxton, Mary R., Ripley
Briggs, Glenn, Garber
Brown, Oliver S., Natura
Burke, Elizabeth, Stillwater
Burrell, Della, Stillwater
Butler, Joe B., Omega

Clowers, Caswell F., Okemah
Conklin, Harry E., Chandler
Conrell, James S., Stillwater
Correll, Ray H., Stillwater
Cox, Jesse A., Bridgeport
Crothers, William F., Brady, Texas
Curry, Mary, Stillwater

Donart, Gladys, Stillwater
Donart, Ruth, Stillwater
Dorman, Vernon, Pond Creek
Drummond, Cecil, Hominy
Drummond, Frederick, Hominy
Durham, Pearl, Stillwater

Freeman, Ray, Tucumcari, N. Mex.
Frick, Edward, Stillwater
Friedmann, William G., Stillwater

Graham, Douglas S., Swink
Graham, Quentin, Swink
Gray, Helen, Stillwater
Gruhlkey, W. D., El Reno

Hirt, Minor, Pawhuska
Hobgood, Guy, Madisonville, Ky.
Hoke, Rhoda, Quay
Holleman, Eugene, Stigler
Holleman, Gertrude, Stigler
Houck, M. Afton, Stillwater
Huffman, Lewis, D., Stillwater
Hume, John P., Coalgate
Hunt, Elmer W., Kingfisher
Hunt, Esther E., Stillwater
Hunt, Ruth A., Stillwater

Johnson, L. Bonnie, Ada
Jones, Daisy L., Stillwater
Jones, Eva, Stillwater
Jones, Jeanne H., Stillwater
Jordan, Charles N., Grand Valley

Kirby, John C., Altus
Klotzman, Otto J., Nashville

Lindbeck, Clifford, Bishop Hill, Ill.
Landsey, James, Kingfisher

Marsh, William S., Kingfisher
Matthews, Dessie, Fairfield, Ill.
Miller, Ernest R., Fort Gibson
Mohr, Burton L., Mustang
Moore, Mildred R., Stillwater
Morrow, Ella M., Perkins
Murphy, Curtis, Foss
Murphy, W. Blakely, Claremore

Nunn, W. Irvin, Shawnee

Oakes, Edgar O., Soper	Olmstead, Merritt E., Marshall
Page, John, Stigler	Pearson, Thirza, Yale
Patterson, William H., Okemah	
Rawlings, Ralph, Sulphur	Roberts, Vera B., Stillwater
Ray, Margaret, Stillwater	Robertson, Alonzo, Columbus, Ky.
Reid, Ruby, Muskogee	Rocser, Harry, Perry
Ritchey, Wilbur, Stillwater	Rushing, Oscar, Stillwater
Roberts, Charles H., Lawton	Russell, Carl, Warner
Sanders, Grover, Omega	Smart, S. Faye, Stillwater
Schafer, Paul, Mountain View	Smiser, Ray, Oklahoma City
Schwark, Charles W., Arkansas City, Kan.	Smith, Charles L., Guthrie
Seeger, Ernest C., Billings	Spohn, Callic, Stillwater
Shillett, Riley F., Duncan	Springer, Robert M., Stillwater
Sims, John, Okmulgee	Stockton, Flora, Truscott, Texas
Sinclair, Edward, Oklahoma City	Suhl, G. Elva, Stillwater
Taylor, Inez, Stillwater	Tolson, Ralph S., Pawhuska
Tenney, George E., Muskogee	Tourtellotte, Evert, Stillwater
Watrous, Minnie E., Stillwater	Williamson, Emery, Stillwater
Ward, Lewis S., Rutland, Vt.	Wilson, Edward L., Fort Towson
Watson, Wayne P., Chattanooga	Wilson, May, Mangum
Weber, Albert G., Calumet	Wise, Oscar I., Stillwater
Wewerka, Bennie, El Reno	Wood, Ray A., Iahoma
Whipple, A. Floyd, Stillwater	Woodworth, Leonard A., Oklahoma City
Whitlock, Ernest, El Reno	Young, Kenneth R., Stillwater

Sub-Freshman

Aikins, Samuel, Fairfax	Amis, Lewis, R., Meeker
Albert, Alta B., Stillwater	Anderson, A. Walter, Fairmont
Allen, Sam, Stillwater	Andrews, Edna, Stillwater
Alphin, Herbert, Fort Cobb	
Balfour, Bessie, Stillwater	Blecha, Anton, Oklahoma City
Balfour, Harold O., Stillwater	Powdlear, W. Loyd, Stillwater
Barnes, Luster R., Pocasset	Brandon, Edna, Stillwater
Barr, Ray B., Springfield, Mo.	Brantley, Eula M., Terral
Beardsley, Fred, Snyder	Brattin, Vera V., Stillwater
Beck, Roy S., Stillwater	Breeding, Bland, Holdenville
Bell, Roy, Davidson	Bricker, Raymond, Delaware
Benton, Joe, Miami, Texas	Broemel, Agnes, Stillwater
Bieberdorf, Lydia, Orlando	Brown, Milen, Hennessey
Bishop, W. Jaye, Stillwater	Butler, Braxton, D., Stillwater
Blackburn, Joe T., Nida	
Carson, James, Claremore	Coleman, William E., Stillwater
Carson, J. Wilson, Tecumseh	Conner, John H., Chandler
Caton, Harry, Stillwater	Cook, Claude, Fairfax
Chapman, C. Earl, Sayre	Corn, Gordon, Stillwater
Chilcote, Maud L., Perkins	Costigan, Thomas G., Chickasha
Choate, Nathan W., Guthrie	Cummings, Sumpter N., Mena, Ark.
Cinnamon, George, Garber	Cunningham, Katherine, Glencoe
Clark, Joe H., Stillwater	
Daigh, Harry H., Harrah	Davis, LeRoy, Stillwater
Dalton, Clifford, Holdenville	Dixon, Jay M., Wakita
Davis, George E., Stillwater	Doty, Harold, Stillwater
Davis, Guy, Bronte, Texas	Drake, Chester N., Stillwater
Davis, Leona I., Stillwater	Drummond, Alfred A., Hominy
Ebert, August, Garber	Estill, Gordon E., Garber
Elliott, Ernest E., Sentinel	Evans, James, Newport
Fisher, Elmer, Pauls Valley	Friedmann, Theodore, Stillwater
Garrett, Emmett, Stillwater	Gray, Ben, Doyle
Gay, A. G. Thurman, Stillwater	Gray, Willis N., Stillwater
George, Walter I., Carrier	Grey, Cecil H., Oklahoma City
Hamon, Ray L., Stillwater	Harding, Madeline, Stillwater
Harmon, Thomas L., Hinton	Harris, Ethridge A., Hedrick

Harvey, Ruth A., Stillwater
 Hause, George W., Claremore
 Hause, Joseph M., Claremore
 Hays, Dee Jay, Harrah
 Hays, Glenn G., Oklahoma City
 Hays, Margarete, Stillwater
 Henderson, Echo, Yale
 Henderson, George, Smithville
 Henson, Claude A., McLoud
 Henson, Ethel, McLoud
 Henson, Ray, Stillwater

Irvin, Gladys O., Stillwater

James, Cornelia A., Stillwater

Kellar, Clinton J., Arkansas City, Kan.
 Kelly, Shannon, Stillwater
 Kile, Eugene, Stillwater
 Knight, Ethel, Shawnee

Ledbetter, J. Noland, Woodford
 Ledbetter, Lewis C., Rocky
 Lewis, Charles A., Ponca

McBride, Lillian M., Stillwater
 McBride, Robert V., Stillwater
 McCollum, Walter, Lone Wolf
 McGinty, Bryan W., Stillwater
 McKee, Calvin, Cooperton
 McKee, Claud, Cooperton
 McLean, Dorald, Stillwater
 McMahan, Ren A., Kingfisher
 Maggard, Francis H., Cement
 Maloy, Luther, Delhi

Nelson, Ivo A., Stillwater
 Newkumet, Ronald G., Guthrie
 Newton, Maud, Stillwater

Ogle, Leo E., Arcadia
 Orr, Earl, Hunter

Pace, Mary, McGirk, Mo.
 Painter, Dorothy A., Stillwater
 Patterson, Allen, Newkirk
 Payne, Zola F., Stillwater

Radnich, Helen U., Stillwater
 Rapp, Workman, Stillwater
 Ray, Elsie V., Stillwater
 Reed, Frank H., Oklahoma City
 Richards, Raymond, Tulsa
 Roads, Harold, Waukomis
 Roberts, Oma, Rondo, Mo.

Sanders, Joseph M., Omega
 Santee, Claud T., Goltry
 Scallorn, Lona A., Clinton
 Schafer, Harry J., El Reno
 Schlitz, Maud C., Perry
 Selph, Nina E., Stillwater
 Shepler, Glenn C., Pawnee
 Sherman, Ralph, Shawnee
 Shiflett, Zelma, Duncan
 Smart, George D. R., Manitou
 Smart, Mary A., Manitou
 Smith, Herman E., Warner
 Smith, H. E., Putnam

Taylor, Ira, Bliss
 Terrill, Quinn W., Stillwater

Vaughan, Frank L., Supply
 Vermillion, Ray R., Stillwater
 Vezey, Herman, Orlando

Henson, Tracy, Stillwater
 Herrin, Herman, Shawnee
 Heston, Adrian O., Stillwater
 Hicks, Clifford A., Bluejacket
 Hill, James M., Raydon
 Hinkel, John W., Stillwater
 Hodgden, Frank B., Enid
 Holt, Carl, Guymon
 Horton, Floyd L., Mekuskey
 Horton, George W., Mekuskey
 Horton, William, Tulsa

James, J. Ernest, Rural Retreat, Va.

Knight, Lillian Z., Stillwater
 Kolb, John A., Marietta
 Krepps, Randolph, Stillwater

Lewis, Velma P., Stillwater
 Lines, Will R., Walter
 Looper, Guy, Garber

Marlin, W. Ross, Glencoe
 Maroney, Hugh W., Stillwater
 Marsh, Corinne, Arapaho
 Mayrant, John W., Madill
 Melton, Armon, Stillwater
 Miles, Dale A., Perkins
 Mitchell, Homer R., Custer
 Mohr, Charlotte, Mustang
 Morrison, Virginia C., Stillwater
 Morton, Richard, Okmulgee

Newton, Webb S., Stillwater
 Noles, Carl R., Dundee, Texas
 Norman, Victor, Stillwater

Oschman, Goldie, Stillwater
 Oxley, William E., Cleo

Phillips, David V., Norman
 Powell, Teddy, Calumet
 Putman, John, Glenn

Robinson, Keese, Keota
 Rose, Rollin, Stillwater
 Rouse, Maurice, Pleasant Valley
 Rowland, Andrew B., Shawnee
 Rush, Ethel E., Stillwater
 Rust, Roy, Stillwater

Smith, Orlena H., Warner
 Smith, Sam B., Weleetka
 Smith, Stanley I., Pawnee
 Spear, Agatha R., Stillwater
 Spencer, Earl L., Stillwater
 Spencer, Joseph R., Stillwater
 Spradling, Herbert, Dallas, Texas
 Stidham, Earl G., Stillwater
 Stiles, Harry N., Medford
 Stone, D. L., Jay
 Stover, Elizabeth, Stillwater
 Svejovsky, Clarence, Oklahoma City

Tillinghaust, Harold, Stillwater
 Torrance, J. Gelmer, Merrick

Vosburg, Lelia, Perkins
 Vosburg, Nina, Perkins

Walters, Joe, Stillwater
 Ware, Alta B., Stillwater
 Warren, Charlie, Stillwater
 Warren, Chester, Stillwater
 Weber, Herbert K., Bessie
 Weeden, Bert, Elmwood
 Wells, Randolph, Fort Gibson
 Whitman, Nora B., Perkins
 Whitlock, Ernest, El Reno
 Wier, Samuel O., Kiel

York, Clinton, Indianola
 Young, Joseph E., Stillwater

*Deceased.

*Wille, Charles F., Supply
 Williams, Armon, Marshall
 Wilson, Edward O., Fort Towson
 Wilson, Grace C., Stillwater
 Wilson, James S., Fort Towson
 Winters, M. Ray., Stillwater
 Wittich, Valentine R., Stillwater
 Wofford, Ollie Ben, Pauls Valley
 Woodworth, Louis E., Stillwater

Young, Trissie E., Stillwater

Specials

Adrean, Toner H., Keystone
 Akagi, Yutaki, Bingo, Japan
 Anderson, Ellen, Fairmont

Ballinger, Nellie D., Glencoe
 Barkley, Mattie, Stillwater
 Bendinger, Mrs. S. C., Stillwater

Carnahan, Emily, Calumet
 Cearley, Cassie C., Springfield, Mo.
 Chandler, James R., Hinton
 Chivington, Maybelle, Stillwater
 Combs, Bertha, Stillwater
 Connell, William B., Stillwater

Dealey, Kenneth, Dallas, Texas
 Dean, Maude A., Ava, Ill.

Effken, Fritz, Stillwater

Fly, Grace, Fairfax
 Foster, Lillian C., Stillwater

Gaasch, Etta E., Stillwater
 Gay, Leah F., Stillwater

Hamrick, Mary M., Shawnee
 Harrell, James, Roosevelt
 Harris, Inez J., Stillwater
 Hays, Minnie, Coweta
 Henshaw, Maude, Madill

Johnson, Lucy L., Ada

Kasl, Cora, Perry
 Kennecutt, Earl, Stillwater
 Key, Ambrose, Terral

Lampke, Mrs. Alice, Chicago, Ill.
 Lewis, Inez, Ponca

McBride, Nellie, Stillwater
 Maxwell, Jacob B., Keystone
 Merchant, Grace, Alva
 Merchant, Vivian, Alva
 Messal, Minnie, Stillwater
 Meyerdirk, Evalena, Pawnee

Neaves, Zola, Tryon
 Newton, Edna O., Stillwater

Patton, Laura, Stillwater

Reed, Agnes, Stillwater
 Reed, Florence, Stillwater
 Riley, Eva, Kildare
 Robison, Katie L., Tecumseh

Anderson, Grace, Stillwater
 Anderson, Katie, Catoosa
 Arnote, Vivienne M., Antlers

Blanton, Anna, El Reno
 Bottz, Ethel E., Stillwater
 Brantley, Bonnie D., Terral

Conyers, Edith, Foraker
 Coverdale, Mrs. R. A., Pawhuska
 Cripe, Dora, Stillwater
 Cripe, Florence, Stillwater
 Cripe, Mabel, Stillwater
 Curry, Cora, Stillwater

Dose, Christena B., Mounds
 Dose, Josephine, Mounds

Fresh, Lula E., Stillwater

Gibson, Cecilia, Grove
 Goltry, Herschel, Enid

Hewitt, Paul, Coyle
 Holt, Lula, Guymon
 House, Ada B., Stillwater
 Hufnagle, Carl, Okarche

Knadle, Josephine M., Oklahoma City
 Knowles, Leah, Stillwater

Liedman, Walter, Sulphur
 Love, Clara E., Tribbey

Monroe, Mrs. Lizzie, Stillwater
 Moore, Vestini, Pawnee
 Morgan, Bernice, Stillwater
 Morris, Charles G., Stillwater
 Morris, Maud A., Stillwater
 Myers, Fern, Stillwater

Norman, Marianna, Stillwater

Pepin, Chester L., Hennessey

Rogers, Eulala, Stillwater
 Ross, Emma J., Cane Hill, Ark.
 Rust, Nellie, Stillwater

Sanborn, Mrs. C. E., Stillwater
 Sexton, Mrs. C. E., Stillwater
 Shannon, Lee, Chickasha
 Simank, Edward W., Fayetteville, Texas
 Simmons, Clea M., Morris
 Slayton, Joseph, Sparks

Townsley, John, Sulphur

Vinson, Roy, Perkins

Walker, Kenneth D., Seneca, Mo.
 Walker, William L. R., Union City
 Warren, Pearl G., Stillwater
 Westbrook, Mrs. Ethel, Stillwater
 White, Pearl, Stigler
 Whitney, Ethel M., Adair

|| Deceased.

Smith, Charles A., Stillwater
 Smith, Horace G., Mulhall
 Snyder, Beryl, Hayward
 Stewart, Velma, Milan, Kan.
 Sutton, Burt, Broken Arrow

|| Wilde, Olive G., Stillwater
 Winters, V. Blanche, Stillwater
 Wirfs, Clare, Shawnee
 Woodworth, Eva, D., Stillwater
 Wright, Nathan W., Stillwater

Business

Allen, Horace, Elk City

Bakerink, Hazel, Arriba, Col.
 Bernard, M. Montfort, Burlington, Iowa
 Bick, Emma, Stillwater
 Billings, J. L., Davidson
 Bingham, Jesse G., Eagle City
 Bowers, Anna L., Stillwater

Campbell, Howard, Wewoka
 Cole, Guy, Altus
 Connelly, Olive, Wellston
 Conner, Russel, Stillwater

Dotts, Homer C., Perry
 Dowell, Elmer, Perry

Estes, Van, Headrick

Ferguson, Julia, Stillwater
 Fillmore, Roscoe L., Glencoe

Graham, McKnight, Marietta
 Griggs, R. Dayton, Dale

Haws, Harry, Chandler
 Haydon, Lucy, Calumet
 Hayes, S. Allene, Webber Falls

Jennings, George, Webber Falls

Kelso, Grace, Glencoe

Langlois, June E., Buda, Ill.
 Love, John W., Tribbey

McLelland, Mrs. A. M., Stillwater
 McMahan, Andrew, Apache
 Machenheimer, Will, Shawnee
 Marteney, Ralph E., Goltry
 Masters, Bertie C., Watonga
 Mayes, George, Pryor

Northup, Evalyn, Stillwater
 Pickering, Beryl, Stillwater
 Pirtle, Mrs. Ella, Stillwater
 Potter, Frank A., Stillwater
 Price, Glen, Stillwater
 Pugh, Bryon, Ardmore
 Robertson, Lella E., Hulbert
 Robinson, William, Cement
 Rolette, Max A., Wanette
 Sanders, Alice M., Omega

Armstrong, Nova, Stillwater

Brantley, Fred, Terral
 Brock, Louis C., Adair
 Burnett, Carol, Stillwater
 Burnett, Mabel, Stillwater
 Bybee, Della, Pawnee

Cox, D. Clyde, Tryon
 Cox, Nellie L., Tryon
 Culwell, Doc G., Marietta
 Curry, Harry, Beggs

Duncan, John W., Stillwater
 Dykes, Mabel R., Stillwater

Forbes, N. Guy, Grove
 Funda, Pauline F., Devils Lake, N. Dak.

Gruhlkey, W. D., El Reno

Hays, Jennie, Coweta
 Hill, Charles C., Stillwater

Jung, William G., Mountain View

Kerfoot, Allen, Oklahoma City

Lowry, Abbie C., Stillwater
 Lycon, William A., Stillwater

Merchant, Earl, Alva
 Miller, Etha, Glencoe
 Moore, Russell C., Stillwater
 Morrison, A. Maynard, Stillwater
 Moss, Mrs. Hazel C., Stillwater

Sater, Joe, Stillwater
 Savage, Clifford E., Hastings
 Sharp, Ila M., Foraker
 Slaughter, Ed, Webber Falls
 Sneed, Edward P., Sawyer
 Stockwell, A. P., Elk City
 Strong, Phillip, Nowata
 Svejksky, Frank A., Oklahoma City
 Thompson, Paul K., Stillwater
 Thorndike, Paul W., Dallas, Texas

Ulrich, Murray M., Shawnee
 Voss, Will L., El Reno
 Ware, Flossie, Stillwater
 West, Pearl, Stillwater
 Whitaker, Leo E., Shawnee

Williams, Charles H., Mehan
 Winn, Arthur B., Comanche
 Woods, Dana M., Orienta
 Zody, Floyd H., Tonkawa

School of Agriculture and Domestic Science

(First Year)

Abbott, Boyd A. V., Wann

Anderson, Grace, Enid

Benecke, Willie, Fairmont
 Bilger, Joseph, Kingfisher
 Blackburn, Joe T., Nida
 Blanton, Clarence, El Reno

Blanton, Truman, El Reno
 Boles, Curtis J., Enid
 Brown, Ralph, Okmulgee
 Bush, Hubert, Comanche

Cavalier, Theodore, Choteau
 Cole, Guy, Altus

Collins, Albert, Meeker

Dickinson, John T., Fort Cobb
 Duke, Herbert, Stigler

Euster, Esther, Stillwater

Featherston, Ernest E., Raydon

Gipe, Robert, Perry

Goldsley, Frank, Noble

Hale, Edgar C., Tuttle
 Harnden, Lemmie M., Stillwater
 Hart, Mason, Enid
 Head, Paul R., Mangum
 Hernigh, Loyd, Stillwater, Texas
 Henson, Albert G., Stillwater
 Herrin, Hermon, Shawnee

Hill, Maston S., Oktaha
 Hiner, John H., Fort Cobb
 Hoffman, Ethel, Kingfisher
 Horn, Frank E., Beaver
 Hubbard, Marie S., Stillwater
 Hunt, Jesse D., Pauls Valley

Jones, Watson C., Mustang

Keen, James T., Poarch
 Kissick, Elmer A., Yukon

Knight, Ralph P., Shawnee
 Kolb, John A., Marietta

Lewis, Curtis, Ponca
 Lincoln, Ora A., Enid

Lindsey, Campbell E., Dale

McCormick, Harry B., Roosevelt
 McInnes, Ernest R., Okarche
 McKee, Don, Cooperton
 McNeill, Nathan, Grand Valley
 Madison, Clyde, Madison

Marsh, William, Kingfisher
 Messall, Minnie, Stilwater
 Miles, E. L., Ames
 Miller, Alfred, Beggs
 Morton, William, Okmulgee

Noble, Raymond, Wewoka

Page, Fred W., Kingfisher
 Pepin, C. Lee, Hennessey

Potter, Ray, Chandler
 Potzack, Rudolph, Union City

Reeve, Fred S., Choctaw

Roades, Nina F., Norman

Sawyer, Neil, Fairfax
 Schmolcke, Fred, Waynoka
 Simmons, Lulu A., Ponca
 Smith, James A., Keystone

Statler, Clifford, Wapanucka
 Stovall, Milton, Stillwater
 Svejkovsky, Clarence, Oklahoma City

Thorp, Floyd H., Mountain Park
 Townsend, Delmar O., Oklahoma City

Trout, Jake, Honey Grove, Texas
 Turner, Walter, Elk City

Unverzagt, Louis, Kingfisher

Whitecotton, Guy, Okmulgee
 Whitlock, Robert, El Reno
 Wilson, William R., McCloud

Winters, Martin R., Stillwater
 Wofford, Ollie B., Pauls Valley

Young, Burns, Lockwood

(Second Year)

Abbott, Ray, Stillwater

Aldrich, DeWitt V., Stillwater

Barton, Albert, Hennessey	Burney, Ed E., Chickasha
Blanton, Anna, El Reno	
Copley, Irl R., Hinton	
Davis, Guy W., Hinton	Dinkler, Mary, Hennessey
Head, Harold, Mangum	Horn, Frank E., Beaver
Heierding, Henry, Stadthagen, Germany	Houser, John Sapulpa
Ikard, Frank, Chickasha	
Leicht, Louis, Hillsdale	Lusk, L. C., Beaver
Mardon, William C., Wiesbaden, Germany	Roberts, Forest M., Medford
Ramsey, Ernest A., Orlando	
Sayre, Eugene W., Morrison	Spalding, Edward L., North Emid
Team, Edward L., Oklahoma City	Williamson, Walter, Moore
Weber, Edward A., Mangum	Winchell, Lawrence J., Newkirk
Weber, John S., Burlington	

Summer Normal School

Adrian, Toner H., Keystone	Andrews, Eunice E., Stillwater
Aikins, Evelyn M., Stillwater	Andrews, Edna, Stillwater
Allnut, Garnette, Stillwater	Andrews, Leonard R., Stillwater
Baker, Cammie A., Stillwater	Rowen, Mabel F., Glencoe
Baker, Clem R., Glencoe	Brandon, Edna, Stillwater
Balch, Calvin, Carney	Bras, Muriel V., Stillwater
Balling, William F., Glencoe	Bras, Sadie S., Stillwater
Ballinger, Nellie, Glencoe	Brewer, Otto, Comanche
Barr, Blanche L., Tulsa	Bridwell, Lola, Perkins
Partlette, Alice, Stillwater	Brooks, Lola, Stillwater
Bassler, Emma A., Stillwater	Brower, Laura, Stillwater
Becker, Edgar N., Stillwater	Brown, Maurice Y., Agra
Bedinger, Mrs. S. C., Stillwater	Buchanan, Harvey, Whitesboro, Texas
Bell, Mrs. Ellen E., Cushing	Buffington, Betha, Stillwater
Benedict, Gertrude, Tryon	Burke, Clara, Stillwater
Bilyeu, John R., Stillwater	Burke, Elizabeth, Stillwater
Birmingham, Alva C., Stillwater	Burke, Helen, Stillwater
Birmingham, Robert C., Galveston, Texas	Burnham, Zoe, Stillwater
Bishop, Corinne, Stillwater	Burrell, Della, Stillwater
Borden, Elizabeth, Sayre	Butler, Alta, Cushing
Campbell, Anna, Morrison	Collins, Olive, Stillwater
Carson, Mrs. Bell M., Perkins	Comstock, Frank, Stillwater
Carter, Audra K., Glencoe	Connell, James S., Stillwater
Casali, Louise, Guthrie	Conway, William T., Sulphur
Chandler, Mrs. Ola, Stillwater	Cook, Harold P., Guthrie
Chastain, Roger M., Little	Cotterman, Iva, Tonkawa
Chittenden, Ona, Stillwater	Courtwright, Miles A., Mountain Park
Chivington, Maybelle, Stillwater	Coverdale, Mrs. R. A., Pawhuska
Cinnamon, Roland E., Garber	Cox, Esther O., Tryon
Cogswell, Cora C., Stillwater	Cox, Mary E., Stillwater
Collins, Blanche, Stillwater	Curry, Mary, Stillwater
Collins, Blanche, Stillwater	
Dailey, Edith, Stillwater	Donart, F. Ruth, Stillwater
Darlow, Margaret, Stillwater	Doolin, Stella, Stillwater
Davis, Leona I., Stillwater	Duck, Martha, Stillwater
Derrick, Lyle, Ripley	Duckworth, Effie, Siloam Springs, Ark.
Eads, Iva, Stillwater	Eberle, Dovie, Skedee
Farmer, May, Glencoe	Forney, Charles, Kingfisher
Ferguson, Julia, Stillwater	Frick, Edward, Stillwater
Fix, Fred I., Stillwater	Frieday, Almira P., Stillwater
Flanagan, V. I., Keystone	Friedemann, William G., Stillwater
Flesner, Meta, Stillwater	Fuss, Addie, Maramec
Galbraith, Earle L., Glencoe	Gardner, Bert C., Davenport
Galbraith, Mrs. Merle, Glencoe	Gardner, Charles G., Davenport

Gardner, Emily G., Davenport
Garrett, Emmett, Ripley
Gipe, Romney H., Stillwater

Hagar, Alice J., Stillwater
Hagar, Hyral S., Stillwater
Hagar, W. Edgar, Stillwater
Hagers, Virda A., Stillwater
Hale, Fannie G., Stillwater
Hamilton, J. Homer, Stillwater
Hamon, Benj. F., Stillwater
Harnden, Myra A., Stillwater
Harris, Flora M., Stillwater
Harrison, Luella, Stillwater
Hartert, Idelle E., Tryon
Hayes, Sayde, Stillwater

James, Helen, Stillwater
Janeway, Helen, Stillwater
Jeffords, Mary E., Stillwater
Jenkins, Albert, Wagoner
Johnson, Lawrence, Stillwater
Johnson, Lora, Stillwater

Kirkpatrick, Victoria, Stillwater

Lampke, Mrs. Alice, Chicago, Ill.
Lauderdale, Emma, Cushing
Layman, Ida C., Stillwater
Layman, Pauline, Stillwater
Lenington, Bertha, Agra
Lewis, Carrie E., Stillwater
Lewis, Myrtle I., Stillwater

Mansfield, Clara, Ardmore
Mansfield, John M., Cleo
Martindale, C. LeRoy, Oklahoma City
Maxwell, Jacob B., Keystone
McBride, Iva A., Stillwater
McCray, Eula, Stillwater
McPheeters, Elinor, Stillwater
McPheeters, Margaret, Stillwater
Mann, H. B., Davenport

Neaves, Zola, Tryon
Neerman, Alma, Tulsa
Neuman, Josie, Stillwater
Newton, Edna, Stillwater

Oursler, Elizabeth, Stillwater
Owen, Ben A., Davenport

Parmley, Elsie, Cushing
Patton, Laura M., Stillwater
Payne, Julia F., Stillwater
Perry, Eva, Cushing
Plog, Ella, Stillwater
Poole, Clarence M., Perkins

Quimby, Frank, Ripley

Reed, Agnes, Stillwater
Reynolds, Edna M., Stillwater
Roark, Floyd B., Coyle
Robinson, O. C., Orlando
Rogers, Almira, Stillwater
Rogers, E. F., Glencoe
Rotroff, Cora, Glencoe

Schwark, Conrad W., Arkansas City, Kan.
Schaeffer, Ira C., Keystone
Schawver, Emma, Stillwater
Shifflett, Roger C., Duncan
Shinn, Arthur L., Stillwater
Smith, C. Alfred, Stillwater
Smith, Dora M., Ardmore
Smith, J. Stayton, Stillwater
Snyder, Beryl, Hayward

Glass, Vallie V., Stillwater
Gray, Helen, Stillwater
Griffeth, Minnie, Stillwater

Henderson, Rhetta, Yale
Henson, Claude, McLoud
Henson, Ethel, McLoud
Hewitt, John R., Coyle
Hiet, Sadie, Stillwater
Holcomb, Robert M., Olive
Hollar, Jessie Pearl, Jefferson
Houck, Kathleen F., Stillwater
Hubler, Willis A., Newkirk
Hughes, Josephine E., Stillwater
Hunt, Ruth A., Stillwater

Johnson, Vista, Stillwater
Jones, Carrie, Stillwater
Jones, Eva, Stillwater
Jones, Glennie, Stillwater
Jones, Jeanne H., Stillwater
Jordan, Charles N., Grand Valley

Knight, Myrtle A., Stillwater

Linkenfelter, Emma, Stillwater
Lonsinger, Ethel, Ponca
Lonsinger, Roy C., Ponca
Losey, Portia M., Los Angeles, Cal.
Lowry, Abbie C., Stillwater
Lynch, Helen, Cushing

Merydith, Clarence S., Stillwater
Miller, Fern, Stillwater
Miller, Nettie, Stillwater
Miller, Wendell P., Stillwater
Millholland, Irene, Stillwater
Moore, Helen P., Stillwater
Morgan, Bernice, Stillwater
Morgan, James, Stillwater
Moss, Mrs. Hazel C., Stillwater

Newton, Maudie, Stillwater
Newton, Webb S., Stillwater
Nickerson, Tressie, Orlando
Norris, Elsie, Lovell

Oxley, William E., Cleo

Poole, Grace G., Perkins
Poole, Mrs. Emma, Perkins
Porter, John H., Glencoe
Pribbenow, Ferdinand A., Chandler
Prowant, Ira B., Stillwater
Prowant, Mearl, Stillwater

Quinn, Alice, Stillwater

Russell, Mary F., Warner
Rust, Nellie F., Stillwater
Ryan, Edna B., Glencoe
Ryan, Fannie F., Glencoe
Ryan, Nellie, Glencoe
Ryno, Mrs. Lelie, Stillwater

Springer, Mrs. Ruby F., Stillwater
Stansbury, Nora E., Stillwater
Stovall, Milton, Stillwater
Stover, Bessie B., Stillwater
Stover, Nanna, Stillwater
Stripling, Jacob T., Quay
Studebaker, Rose, Stillwater
Suhl, Elva, Stillwater
Suthard, Eva M., Stillwater

Thompson, Hattie M., Coyle
Thompson, Josephine, Coyle
Thompson, Myrtle H., Coyle

Utter, Mollie, Perkins
Van Arsdall, Ruth, Orlando
Van DeMark, Lillie, Ripley

Walters, Julia, Stillwater
Walters, Maggie, Stillwater
Walters, Minnie, Stillwater
Ward, Daisy, Hughes
Ward, Pearl, Cleveland
Ware, Alta B., Stillwater
Warren, Pearl, Stillwater
Watrous, Josephine, Stillwater
Watrous, Mary E., Stillwater
Watrous, Minnie, Stillwater
Watson, Florence, Stillwater
West, Maude E., Stillwater
West, Pearl, Stillwater
Whillock, Beuna, Stillwater
Whipple, Pauline, Stillwater
Whitaker, N. Maude, Glencoe
Whitham, Blanche, Stillwater

Zickefoose, Nicholas, Keystone

Tift, Mrs. Mattie B., Stillwater
Triplett, Effie, Stillwater
Triplett, Kathryn, Stillwater

Vann, Robert P., Webber Falls
Vermillion, Olive, Stillwater

Wilcox, W. A., Grande
Willbanks, Grace, Pawnee
Williams, C. Dwight, Mehan
Williams, Ella, Mannford
Williams, Milton T., Rocky
Williamson, Carrie, Stillwater
Williamson, Emery, Stillwater
Willits, Deborah M., Stillwater
Willits, Ines, Stillwater
Wilson, Hattie M., Oklahoma City
Wolfe, Lula M., Stillwater
Wood, Lee, Stillwater
Wood, Mrs. Clara E., Stillwater
Worley, C. Del, Stillwater
Wright, Louise, Stillwater
Wright, Nathan W., Stillwater

Special Dairy Course

Hammon, Robt., Perry
Hart, Wesley, Orlando
Leibmann, Sulphur,
McColloim, Lone Wolf

Fatzack, Rudolph, Union City
Penner, John E., Orienta
Tadlock, H. A., Mulhall

Farmers' Short Course—January 16-21, 1911

Abbott, Willard, Stillwater
Adams, W. A., Stillwater
Adams, W. B., Stillwater
Ahrberg, U. W., Stillwater
Aikins, D. L., Stillwater
Alderson, W. M., Stillwater
Alderson, Mrs. W. M., Stillwater
Aldrich, F. B., Stillwater
Aldrich, Mrs. F. B., Stillwater
Allen, John, Stillwater
Alson, Wm., Oklahoma City
Amey, R. W., Stillwater
Anderson, Allen, Stillwater

Bagenstos, Lione, Alva
Bahntge, H., Stillwater
Bahntge, Mrs. H., Stillwater
Baker, C. D., Kingfisher
Baker, C. L., Coyle
Baker, H. J., Kingfisher
Baldwin, Howard, Kingfisher
Balfour, J. O., Stillwater
Balfour, Mrs. J. O., Stillwater
Barker, W. M., Mehan
Barnes, Ledru, Merrick
Barnes, May, Stillwater
Barnes, Mrs. Etta, Stillwater
Barnes, Mrs. Hazel, Merrick
Barnes, R. F., Stillwater
Bartholomew, W. J., Stillwater
Basil, M. E., Stillwater
Basil, Mrs. M. E., Stillwater
Becker, H. E., Stillwater
Belding, Clifford, Hobart
Bellis, Mrs. H. R., Stillwater
Bennett, Buzz, Marshall
Bennett, Paul, Stillwater

Alderson, Marv, Stillwater
Anderson, R. D., Enid
Anderson, Mrs. R. D., Enid
Andrews, H. E., Stillwater
Andrews, Horace, Stillwater
Ansley, E. P., Hugo
Antler, W. G., Sumner
Arnote, Mrs. E. R., Isabella
Asher, W. R., Stillwater
Asher, Mrs. W. R., Stillwater
Atherton, James, Stillwater
Athey, Phoebe, Edmond
Atkinson, R., Stillwater

Bierbower, A., Braman
Bigler, J. F., Stillwater
Bishop, Geo., Cordell
Bishop, Jiff A., Madill
Blanch, J. H., Stillwater
Blanchard, H. H., Glencoe
Blumer, Sam, Stillwater
Board, F. J., Stillwater
Board, Mrs. F. J., Stillwater
Board, Oscar, Stillwater
Boles, Preston, Enid
Bocz, E. C., Stillwater
Bradshaw, Lee, Mangum
Bradshaw, Mrs. W. S., Mangum
Brandon, I. F., Stillwater
Brandon, Mrs. J. F., Stillwater
Prainger, F. E., Oklahoma City
Brewer, E. E., Stillwater
Brewer, F. S., Skedee
Brewer, Mrs. W. C., Stillwater
Brewer, Rev. W. C., Stillwater
Brindenstine, L. E., Perkins
Brindenstine, V. A., Perkins

Briggs, J. L., Stillwater
 Briles, J. M., Coyle
 Brittin, Mrs. Hettie, Boise City
 Britton, W. V., Shawnee
 Britton, Mrs. W. V., Shawnee
 Broemel, Mrs. Gustav, Stillwater
 Brooks, Mrs. S. C., Stillwater
 Brower, D. C., Stillwater
 Brower, Mrs. D. C., Stillwater
 Brown, J. H., Stillwater
 Brown, Miss Verne, Kingfisher
 Brown, Ralph F., Lawton
 Bryan, F. S., Stillwater
 Bryan, O. S., Stillwater

Carpenter, E. W., Stillwater
 Carpenter, W. O., Stillwater
 Carpenter, Mrs. W. O., Stillwater
 Carroll, L. F., Newkirk
 Caton, H. L., Stillwater
 Chandler, C. S., Stillwater
 Chandler, Mrs. C. S., Stillwater
 Childress, Grant, Stillwater
 Chivington, C. O., Stillwater
 Chivington, L. C., Rea, Mo.
 Clampitt, F. A., Stillwater
 Clark, Mrs. T. J., Stillwater
 Clark, T. J., Stillwater
 Cohee, Will, Coyle
 Compton, Mrs. Minnie, Stillwater
 Compton, W. I., Stillwater
 Confrey, V., Ripley

Davis, Fred, Stillwater
 Davis, G. C., Stillwater
 Davis, J. S., Perkins
 Davis, Lennie, Durant
 Davis, Minnie, Stillwater
 DeCamp, Guy, Stillwater
 Delaney, Elizabeth, Stigler
 Denman, Beryl, Ardmore
 Dent, J. P., Stillwater
 Dent, Mrs. J. P., Stillwater
 Dever, Mrs. H. W., Wichita, Kan.
 Dial, Hardy, Tecumseh
 Diehl, Dan, Gotebo
 Diggs, Mrs. I. O., Stillwater
 Diggs, S. O., Stillwater
 Dix, Sam, Yale

English, R. W., Stillwater
 Erwin, Cecil, Carrollton, Mo.
 Erwin, Mrs. Harvey, Carrollton, Mo.

Farmer, Martha, Helena
 Faulkner, J. V., Manitoba
 Featherston, Charley, Featherston
 Ferguson, Geo., Glercoe
 Field, Zeola, Enid
 Fields, John, Oklahoma City
 Fitzgerald, Alfred, Antlers
 Flannagan, J. E., Stillwater
 Flesner, Geo., Stillwater
 Flesner, Gerd., Stillwater
 Flesner, Henry, Stillwater

Gafford, Phil., Sulphur
 Gammie, Mrs. L. A., Stillwater
 Gardner, Ethlyn, Woodward
 Gardner, M. Fred, Geary
 Gates, M. E., Stillwater
 Gates, R. E., Stillwater
 Gentry, Lester, Pawnee
 Gigoux, J. P., Enid
 Gilges, I., Stillwater
 Gilges, Mrs. L., Stillwater

Bryan, Mrs. O. S., Stillwater
 Buffington, R. L., Stillwater
 Buffington, Mrs. R. L., Stillwater
 Buresh, Joseph, Anadarko
 Burke, Mrs. K., Stillwater
 Burkett, G. E., Sparks
 Burnett, J. M., Stillwater
 Burnett, Mrs. Ellen, Stillwater
 Burris, R. L., Stillwater
 Burton, Andrew, Perkins
 Burton, Mrs. Rose, Perkins
 Burton, W. R., Maud
 Bush, F. A., Sumner
 Russell, J. W., Durant

Confrey, Mrs. V., Ripley
 Connor, Carrie, Chandler
 Conner, Mrs. W. A., Stillwater
 Cooley, Ed., Harrah
 Cornforth, Oliver, Edmond
 Correll, O. E., Stillwater
 Correll, Mrs. O. E., Stillwater
 Cotton, H. L., Stigler
 Couch, E., Jones
 Cox, E. G., Stillwater
 Cox, J. H., Stillwater
 Cox, Mrs. Ida V., Stillwater
 Cox, W. E., Stillwater
 Crouse, F. T., Stillwater
 Crawford, Joe, Valliant
 Crocker, John, Stillwater
 Currey, Mrs. R., Stillwater

Dowart, Chas., Stillwater
 Doop, Phillip, Stillwater
 Dotter, Gus II., Stillwater
 Doty, S. H., Stillwater
 Downey, J. W., Coyle
 Downey, A. S., Coyle
 Draper, Ella, Madill
 Duck, C. B., Stillwater
 Duck, E. W., Stillwater
 Duck, Frank, Stillwater
 Duck, H. W., Stillwater
 Duck, J. T., Stillwater
 Duck, R. A., Stillwater
 Duck, Thos., Keystone
 Durham, A. J., Stillwater
 Dyer, G. M., Haynes, W. Va.

Evans, A. A., Stillwater
 Evans, Mrs. Kathryn, Stillwater
 Euster, Rev. W. T., Stillwater

Ford, A. E., Carrier
 Ford, F. S., Perkins
 Ford, Harry, Carrier
 Ford, L. C., Perkins
 Fowler, J. J., Stillwater
 Fowler, J. L., Harrah
 Freedhome, Hilda, Stillwater
 Freeman, J. D., Stillwater
 Frieday, F. A., Stillwater
 Frieday, Mrs. F. A., Stillwater
 Fry, W. F., Marshall

Glasgow, Carl, Helena
 Godsey, Fay, Adair
 Godsby, F. W., Noble
 Gray, O. D., Mehan
 Grayson, Felix, Ada
 Greathouse, Elsie, Perry
 Green, I. B., Stillwater
 Green, Mrs. I. B., Stillwater
 Green, W. D., Stillwater
 Green, Wm., Wakita

Greiner, P. P., Stillwater
Greiner, Rose M., Stillwater
Griffith, A. P., Stillwater

Hagar, Mrs. Alice W., Stillwater
Hall, Roy L., Anadarko
Hamilton, F. C., Stillwater
Hamilton, Hays, Laveta, Col.
Hamilton, Mrs. Hays, Stillwater
Hamilton, Jennie, Geronimo
Hamilton, Minnie, Miami
Hamilton, Walter, Pauls Valley
Hamer, E. T., Mangum
Hammett, Bertie, Eufaula
Hamon, W. S., Stillwater
Hampton, A. W., Oklahoma City
Hampton, Sam J., Spencer
Harding, D. D., Stillwater
Harnden, F. D., Stillwater
Harnden, Mrs. F. D., Stillwater
Harrison, Joseph, Lincoln, Neb.
Hart, E. L., Enid
Hart, U. F., Shawnee
Hart, Wesley, Orlando
Harvey, J. H., Stillwater
Harvey, S. D., Stillwater
Hastings, Jas. K., Stillwater
Hastings, Jno. I., Stillwater
Hastings, Mrs. Jno. I., Stillwater
Hatfield, A. M., Glencoe
Hatfield, Earl, Glencoe
Hayen, Bessie, Enid
Hayen, H. M., Enid
Haymes, F. L., Broken Arrow
Hays, J. W., Stillwater
Hendrickson, Oliver, Morris
Hendrickson, Mrs. Mary, Morris
Henson, Mrs. A. C., Stillwater
Herndon, G. W., Stillwater
Herndon, Mrs. G. W., Stillwater
Hert, W. L., Stillwater
Hessler, John, Warner

Ingham, J. W., Glencoe

Jacob, John, Stillwater
James, A. C., White City, Kan.
James, Mrs. H. A., White City, Kan.
James, R. C., Orlando
Jeffords, Mrs. T. M., Stillwater

Kerby, Etta, Vivian
Kerntke, Richard, Stillwater
Kester, Lyman, Enid
Kezer, F., Stillwater
Kidd, Lee, Stillwater
Kidder, Geo. F., Ripley
Kimbel, Joe, Stillwater
King, Felix, Ardmore

LaFollette, Ion, Stillwater
LaFollette, Toz, Stillwater
Lahman, Frank, Stillwater
Lahman, Mrs. Frank, Stillwater
Lahman, W. L., Stillwater
Laird, Carl, Perry
Langshaw, Hugh, Stillwater
Layber, L. D., Stillwater
Layton, Arnold, Vinita
Lear, K. M., Hannibal, Mo.
Leard, Terry, Hugo
Leber, Mrs. A. P., Sulphur

Maddox, Cualde, Alva
Malernee, J. S., Glencoe
Manning, Mrs. Etta, Chandler

Griggs, J. W., Dale
Groom, Guy, Miami
Guinn, Mrs. A., Stillwater

Hester, B. H., Claremore
Heston, J. A., Stillwater
Hickman, Moses, Kaw City
Highmore, R. O., Stillwater
Hildebrand, Arnt, Stillwater
Hillerman, Bert, Stillwater
Hinds, Geo. H., Westville
Hines, Chas. W., Stillwater
Hines, S. M., Stillwater
Hinkle, J. A., Stillwater
Hinkle, W. H., Stillwater
Hirrington, M. L., Morrison
Hoar, O. A., Stillwater
Hoar, Mrs. O. A., Stillwater
Hoke, C. E., Oklahoma City
Hoke, Mrs. Leah, C., Washington, D. C.
Holford, Foy, Madill
Holt, Mrs. J. A., Hooker
Hornbeck, J. W., Stillwater
Horton, Henry, Stillwater
Hoskinson, Mrs. C. S., Stillwater
Houston, F. O., Stillwater
Howe, Ben, Grove
Hudson, J. G., Stillwater
Hudson, S. C., Stillwater
Hughes, Josephine, Stillwater
Hughes, Mrs. Eli, Stillwater
Hughes, Walter, Glencoe
Hugo, H. W., Sayre
Hull, Mrs. C. E., Stillwater
Human, C. A., Stillwater
Huneke, A. H., Shattuck
Hunt, M. H., Pauls Valley
Hunt, Mrs. M. H., Pauls Valley
Hunt, W. H., Stillwater
Hurst, J. H., Stillwater
Hurt, T. F., Oklahoma City
Hutchinson, Joseph, Mehan

Jerome, H. M., Randlett
Jones, Alfred, Newkirk
Jones, A. W., Stillwater
Jones, Homer, Bristow
Jones, J. W., Stillwater

King, James, Fairfax
King, J. C., Glencoe
Kirtley, Fred, Cushing
Knapp, Lulu, Caradian
Knight, R. P., Shawnee
Koburn, J. E., Stillwater
Krepps, Mrs. S. J., Stillwater

Lehman, Frank, Stillwater
Leining, G. W., Stillwater
Lemon, G. E., Nashville
Lewis, G. W., Stillwater
Lewis, Mrs. G. W., Stillwater
Lewis, S. J., Celina, Texas
Lincoln, Mrs. F. C., Stillwater
Lively, Henry T., Renfrow
Lusk, L. C., Beaver
Lynn, R., Nelagory
Lytton, Dale, Stillwater

Manning, Oscar, Chandler
Mardon, Wm. C., Vinita
Marsh, Harry, Kingfisher

Marshall, Wm., Perkins
 Martin, Frank, Coyle
 Martin, L. J., Cushing
 Mayfield, W. T., Stillwater
 Mayhew, C. S., Vinco
 Mayo, Nora, Valliant
 McBride, R. J., Stillwater
 McBride, Mrs. R. J., Stillwater
 McCarty, Clويد, Antlers
 McCarty, Delbert, Antlers
 McCarty, Eula, Antlers
 McCaslin, J. H., Stillwater
 McCaslin, Mrs. J. H., Stillwater
 McDaniel, Duke, Minco
 McDonald, T. M., Stillwater
 McElhanev, James, Noble
 McGinty, W. M., Ripley
 McKee, Mrs. Jennie, Cooperton
 McKinnon, J. M., Stillwater
 McManus, R. D., Oklahoma City
 McRoberts, Geo. H., Stillwater
 McRoberts, Geo. I., Stillwater
 Melton, C. A., Stillwater
 Meinecke, Corean, Stillwater
 Meinecks, Dora, Stillwater
 Meinecke, F. W., Stillwater

Nance, R. J., Perkins
 Nelson, F. G., Stillwater
 Neuman, A. F., Stillwater
 Neuman, Mrs. A. F., Stillwater
 Neuman, L. M., Stillwater

Oldham, Albert, Stillwater
 Oneal, Jim, Stillwater
 Oneal, Mrs. Jim, Stillwater
 Otey, M. J., Frankfort
 Otey, Mrs. M. J., Frankfort
 Overholt, H. E., Stillwater

Paris, T. H., Stillwater
 Patton, G. W., Stillwater
 Payne, John L., Stillwater
 Payne, Mrs. John L., Stillwater
 Peck, Clarence, Stillwater
 Peck, Mrs. G. C., Stillwater
 Peck, O. T., Stillwater
 Peery, J. W., Skedee
 Pendleton, Howard, Yukon
 Perrine, C. S., Stillwater
 Perrine, Donley, Stillwater
 Pickerell, F. M., Edmond
 Pierce, Dr. C. W., Stillwater

Rader, J. M., Glencoe
 Rader, L. L., Glencoe
 Radnich, J. B., Stillwater
 Ralston, C. J., Caney
 Ransenberger, Hazel, Sugden
 Rapp, J. M., Stillwater
 Rapp, Mrs. J. M., Stillwater
 Rexroad, Sarah, Goodwell
 Reynolds, J. W., Muskogee
 Rickard, Miss Etta, Stillwater
 Rodaker, R. J., Durant

Sater, G. R., Stillwater
 Savage, Mrs. John, Hartshorn
 Sayre, E. W., Morrison
 Sayre, W. A., Morrison
 Schroeder, A., Stillwater
 Schein, Geo., Richland
 Schroeder, T., Stillwater
 Schubnell, Fred, Richland
 Schutz, Edw., Prague
 Scott, Chas. E., Helena

Meyer, Robert, Tecumseh
 Miles, J. A., Perkins
 Mitchell, J. T., Stillwater
 Mitchell, Mrs. J. T., Stillwater
 Mittendorf, H. F., Stillwater
 Mittendorf, Mrs. T. M., Calumet
 Moore, D. E., Stillwater
 Moore, G. E., Stillwater
 Moore, J. E., Stillwater
 Moore, P. C., Nowata
 Moore, R. C., Stillwater
 Moore, Mrs. R. C., Stillwater
 Moore, R. H., Stillwater
 Moore, W. F., Glencoe
 Morgan, DeWitt, McLoud
 Morgan, T. H., Stillwater
 Morris, A. M., Stillwater
 Morris, J. C., Stillwater
 Morris, J. W., Stillwater
 Morrow, Mrs. J. H., Perkins
 Moyer, Wm., Deer Creek
 Mumey, Edna, Newkirk
 Murray, F. E., Hillsdale
 Murray, Mrs. F. E., Hillsdale
 Murray, J. S., Nida

Newton, Roy, Stillwater
 Niblack, Mrs. Mary, Ardmore
 Noble, R. E., Wewoka
 Norris, Elmer, Kingfisher

Overholt, Ora, Stillwater
 Oursler, J. A., Stillwater
 Outhier, G. T., Okene
 Ownbey, R. L., Stillwater
 Oyster, Chas., Stillwater

Pierson, Ed., Alexander, Neb.
 Pierson, Mrs. Ed., Alexander, Neb.
 Pitts, Troy, Canadian
 Pontius, Gladys, Newkirk
 Potts, Mrs. Mattie, Washington, Mich.
 Pound, P. S., Stillwater
 Pound, Mrs. P. S., Stillwater
 Pray, L., Stillwater
 Pray, Mrs. Susan, Stillwater
 Purse, Jas. M., Stillwater
 Purviance, Laura, Guthrie
 Pyeatt, Hodge, Frederick

Rogers, Almira, Helena
 Rogers, Mrs. C. F., Stillwater
 Roney, Katie, Brady
 Roper, Clay, Vinita
 Rose, Mary, Stillwater
 Ross, Willis, Madill
 Rouse, G., Pleasant Valley
 Rowland, M. V., Stillwater
 Roy, Joseph, Yukon
 Rutter, Edgar, Stillwater
 Ryan, A. Winfield, Orlando

Scroggs, Ada, Stillwater
 Scroggs, A. E., Stillwater
 Scroggs, J. G., Perkins
 Scroggs, Mrs. Minnie, Stillwater
 Scroggs, W. E., Stillwater
 Seelinger, E. G., Stillwater
 Sellers, Keith, Okarche
 Shaber, Willie, Wetumka
 Shakelford, Blanche, Roosevelt
 Shallenberger, W. D., Weleetka

Smith, Mary E., Warner
 Smith, V. M., Tecumseh
 Smoot, E. M., Shattuck
 Snowden, A. C., Stillwater
 Snowden, Mrs. A. C., Stillwater
 Soule, Phi., Beggs
 Soule, Ruth, Beggs
 Spalding, John A., North Enid
 Speer, Maud A., Stillwater
 Springer, J. M., Stillwater
 Spourrier, R. L., Stillwater
 Stewart, J. R., Yale
 Stewart, Lillian, Sulphur
 Stone, C. H., Stillwater
 Sharp, P. R., Stillwater
 Shawver, Charles, Omega
 Shelper, W. D., Pawnee
 Shotwell, E. B., Okmulgee

Tadlock, H. A., Muhlhall
 Tarpley, Leo, Mountain Park
 Taylor, L. A., Stillwater
 Taylor, M. I., Stillwater
 Taylor, Mrs. Lola, Stillwater
 Taylor, T. G., Stillwater
 Terry, H. N., Perkins
 Teter, Samuel, Stillwater
 Thayer, E. A., Syracuse, Kan.

Uhl, Louise, Skedee

Vail, Roy, Guymon
 Van DeMark, F. W., Stillwater

Walker, Jim, Cushing
 Walker, S. R., Stillwater
 Wallace, Geo. W., Stillwater
 Walters, E. A., Stillwater
 Waner, C. D., Guthrie
 Waner, C. E., Guthrie
 Ware, A. A., Stillwater
 Ware, Mrs. A. A., Stillwater
 Warren, Joel, Stillwater
 Warren, Mrs. Joel, Stillwater
 Watkins, G. C., Fort Smith, Ark.
 Watkins, Perry, Orlando
 Watson, Mrs. Jos., Stillwater
 Watson, W. A., Stillwater
 Watson, Mrs. W. A., Stillwater
 Weaver, John, Stillwater
 Wells, Mrs. Thos., Stillwater
 Wetzell, Carl, Ponca City
 White, B. F., Stillwater
 Wilde, C. G., Stillwater
 Wilkins, Mrs. A. C., Stillwater
 Willhite, Earl, Eufaula
 Williams, Arthur, Rush Springs
 Williams, E. I., Rush Springs
 Williams, Fannie, Grove
 Williams, J. W., Welty

Yant, A. J., Stillwater
 Yant, Earl, Stillwater
 York, G. W., Indianola

Zellar, Mrs. Lizzie, Stillwater
 Zellar, Stephen, Stillwater
 Zigler, Clara, Eufaula

Shotwell, Orlando, Cushing
 Skinner, Arthur, Perkins
 Smith, C. S., Stillwater
 Smith, Geo. L., Warner
 Stone, I. L., Stillwater
 Stovall, G. W., Stillwater
 Straub, Lawson, Stillwater
 Stringer, Aubrey, Broken Arrow
 Suberly, G., Jones
 Suhl, Mrs. F. A., Stillwater
 Suthard, G. W., Stillwater
 Sutton, H. A., Stillwater
 Swander, A. H., Cushing
 Swartz, Mollie, Stillwater
 Swift, Dean, Stillwater
 Swiftnord, S. B., Stillwater
 Symonds, W. S., Ramona

Thomas, Fannie, Holdenville
 Thompson, Della, Cushing
 Thompson, H., Stillwater
 Thorp, L. H., Mountain Park
 Tillion, Bert, Stillwater
 Tillion, Mrs. Bert, Stillwater
 Tillits, Mrs. Ella, Paris, Mo.
 Torrance, Mrs. J. M., Merrick
 Tucker, Mrs. J. T., Stillwater

Van Pelt, Prof. H. G., Waterloo, Iowa
 Vickers, Mary, Bristow

Williams, Paul, Stillwater
 Williams, Rev. V., Stillwater
 Williamson, J. J., Perkins
 Williamson, J. J., Stillwater
 Williamson, Mrs. J. J., Stillwater
 Wilson, J. W., Stillwater
 Wilson, Mrs. Eva, Skedee
 Wilson, Mrs. Jas. A., Stillwater
 Wilson, R. F., Oklahoma City
 Wilson, Robt., Skedee
 Wilson, Weaver, Meridian
 Wenner, David, Guthrie
 Winters, M., Stillwater
 Winters, Sarah A., Stillwater
 Wisdom, Newton, Stillwater
 Wood, Lewis, Stillwater
 Wood, R. B., Stillwater
 Woodson, Marl M., Oklahoma City
 Woodworth, M. C., Stillwater
 Woodworth, Mrs. M. C., Stillwater
 Woolard, I. I., Stillwater
 Worley, M. A., Stillwater
 Worley, Mrs. M. A., Stillwater
 Wright, F. W., Stillwater
 Wright, Mrs. F. W., Stillwater

Young, A. G., Owasso
 Young, Charlie, Stillwater
 Younger, L. D., Stillwater

Zigler, M. F., Morrison
 Zigler, Walter, Eufaula

Special School for Boys at Oklahoma State Fair

Aldridge, Henderson, Mounds
 Baker, Mark C., Kingfisher
 Barbee, Ernest W., Tushka
 Beauchamp, Perry I., Alva

Arrington, Ira, Madill
 Beer, George, May
 Beeson, Webster, Hunter
 Bentley, Vela, Coyle

Bernard, Lewis, Yukon
 Berry, George L., Pond Creek
 Berry, Willie, Cheyenne
 Boyd, Fayh, Frederick
 Brinley, Ray A., Whitehead
 Brisendine, Roy A., Canadian

Campbell, Charles, Fairview
 Campbell, Howard, Wewoka
 Carter, Ralph, Carnegie
 Chadwell, Oliver, Purcell
 Childers, Ernest, Meeker
 Collins, Clarence, Okarche
 Cobb, Phil, Wagoner
 Coleman, Roy, Cowlington

Dallas, Orland, Konowa
 Dannl, Joseph, Kingfisher
 Delozier, J. E., Adair
 Depree, Clyde, Hugo
 Dutcher, Robert L., Stecker

Ellingwood, Hiram K., Collinsville

Farquharson, Glen D., Guthrie
 Fast, Henry, Fairview
 Findley, Loyd, Marlow
 Fish, Maywood, Coyle
 Fitzgerald, Alfred, Antlers
 Gay, Elgin, Pawhuska
 Gayr, Floyd, Ardmore

Hampton, Walter, Sallisaw
 Harper, George, Erick
 Harris, Ben, Marsden
 Harris, Paul, Asher
 Hartle, Jake E., Higley
 Hines, Leland, Sallisaw

Ikard, W. L., Chickasha

Jennings, F. H., Hickory
 Jennings, Kenneth, Marlow

Kessler, J. C., Alva
 Kester, Calvin, Enid
 Kitsmiller, Elmer, Elgin

Langley, J. B., Baptist
 Laird, Carl, Perry
 Leard, Terry L., Hugo
 Ledsinger, Harry, Elmore

McCasky, W. R., Skedee
 McGaugh, Calvin, Delhi
 McHargue, Alvin, Tyrone
 McKay, Robin, Muskogee
 McKay, Scott, Muskogee
 McLendon, Foster, Atoka
 McReynolds, Louis, Lone Wolf
 Mantle, Guy, Adair

Nelson, Norman, Perry
 Norsh, William, Kingfisher

Oakes, Ernest, Ryan

Patton, Morgan, Broken Arrow
 Pennington, Walter, Lehigh
 Phillips, Wesley, Arapaho

Randall, Hendon, Tecumsch
 Rieger, Allie, Lexington
 Roff, C. L., Jr., Wayne
 Rogers, Eugene, Cordell

Browder, Jewell, Canadian
 Brown, Lester, Lexington
 Brown, Quincie, Hydro
 Buck, Luther, Hobart
 Butler, Harry J., Taloga

Conley, Olin W., Lexington
 Cordell, Clark, Holdenville
 Cox, J. M., Deer Creek
 Cox, Ray, Hominy
 Coyner, Fred, Edmond
 Coyner, Paul, Edmond
 Cunningham, James, Hollis

Demand, Preston, Antlers
 Daniel, Earl, Jefferson
 Davis, Elmer, Snyder
 Dunham, Charles W., Tryon
 Dunlap, Ethan, Red Oak

Gaitgey, John, Helena
 Gentry, Lester, Pawnee
 Goetting, Cecil, Chickasha
 Gordon, Tom B., Edmond
 Gorey, Willis, Oneta
 Graham, Leonard, Wade

Hogan, Bearor, Roll
 Hoke, Roy, Quay
 Hollmark, E. C., Snyder
 Hoskins, Everet, Quay
 Hyde, John, Alva

Jones, Homer, Bristow

Knowlton, H. C., Snyder
 Kobel, Ralph, Comanche

Lee, Walter, Miami
 Lindsey, Jean, Lawton
 Lynn, Odus, Oakland

Milam, Oci, Blackburn
 Moore, Harry, Newkirk
 Morgan, Lyman, McLoud
 Morrow, Sterling, Hammon
 Mowdy, J. E., Coalgate
 Muir, Harry W., El Reno
 Murdock, Alvin, Antioch

North, Willie, Tulsa

Orbison, Curtis, Olustec

Pine, William L., Woodward
 Poole, Kenneth, Durant
 Price, William J., Chelsea

Rogers, Joe, Frederick
 Rohrer, Fred, Willard
 Rutherford, Elmer, Shawnee

Sampson, James B., Fletcher
Seay, Homer, Ponca
Self, Elmer, Boswell
Seward, Harvey, Jones City
Shaw, Russell, Sulphur
Shiflett, Mason, Wewoka
Shockley, Chester, Enid
Smith, Herman S., Cowlington
Smith, Hershhal, Wagoner

Teverbaugh, Lon, Bison

Van Allen, Webster, Warner

Ward, Henry, Keys
Weiss, Max, Eddy
Wenner, David, Guthrie
Wheatley, Ernest, Foss
Whitehead, Claud Hartshorn

Zachary, Elmore, Lawton

Snyder, Percy E., Chelsea
Steedman, Earl, Hobart
Stephens, Cecil, Beggs
Stephenson, Charles, Ingersoll
Stidham, Gordon, Taloga
Stout, Charles, Cleveland
Stover, Guy C., Duncan
Stringer, Aubrey, Broken Arrow

Thompson, Dan, Ryan

Van Tungeln, Alfred, Lone Wolf

Williams, Harvey, Rush Springs
Wisdom, Newton, Glenn
Wolfe, Percy D., Watonga
Wortman, Frank, Mulhall

GRADUATING CLASSES BY YEARS**(Regular College Course)**

1896	6
1897	3
1898	7
1899	8
1900	6
1901	5
1902	17
1903	23
1904	20
1905	20
1906	16
1907	18
1908	23
1909	32
1910	47
1911	40
<hr/>	
Total	291

Business Course

1908	15
1909	22
1910	25
1911	19
<hr/>	
Total	81

Two-Year Course in Agriculture and Domestic Economy

1909	25
1910	9
1911	13
<hr/>	
Total	47

Certificates Issued to Teachers Attending Summer Normal

1908	66
1909	69
1910	48
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Total	183

SUMMARY OF STUDENTS BY CLASSES

Session 1910-1911

Senior	44
Junior	53
Sophomores	117
Freshman	168
Sub-Freshman	213
Special	103
Business	86
Two-Year Course in Agriculture and Domestic Economy.....	100
Summer Normal (not including children in Model School).....	266
Special Course in Buttermaking.....	7
Farmers' Short Course.....	621
Special School for Boys at the State Fair.....	149
Grand total of registration.....	1,927
Less Duplicates.....	79
Net total enrollment.....	1,848

Summary of Graduates 1910-1911

Four-Year Collegiate Courses ("Bachelor of Science").....	40
Two-Year Course in Agriculture and Domestic Economy.....	13
Business Course.....	19
Certificates issued to Teachers of the Summer Normal.....	48
Total	120

SCHEDULE
LECTURES, RECITATIONS AND AFTERNOON WORK
 Session 1911-1912—Fall Term

OKLAHOMA A. & M. COLLEGE

185

TIME	CLASS	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Sub-Freshman	English I Algebra II Physiology III Latin 2, IV History V	English I Algebra II Latin 2, IV History V Woodwork III (Boys)	English I Algebra II Physiology III Latin 2, IV History V	English I Algebra II Physiology III Latin 2, IV History V	English I Algebra II Physiology III Latin 2, IV History V
	Freshman	English I History II Algebra III	English I History II Algebra III	Algebra III	English I History II Algebra III	English I History II Algebra III
	Sophomore	Zoology I Chemistry I	Botany 1b English 2a 1	Zoology 1 English 2a 1	Botany 1b German 1, II	Zoology 1 English 2a 1
	Junior	Botany 2 Latin 2 Psychology Calculus	Latin 2 Psychology Calculus	Botany 2 Latin 2 Psychology	Psychology Calculus	Botany 2 Latin 2 Psychology Calculus
	Senior	Entomology 3 Dairy 3 Horticulture 6 Needlework Irrig. Eng. Turbines Plumbing	Agronomy 11 House Furn. Entomology 6 Veterinary Med. Chemistry 8a Irrig. Eng. Turbines	Entomology 3 Dairy 3 Horticulture 6 Hydraulics Domestic Science 10 Turbines Plumbing	Agronomy 11 House Furn. Veterinary Med. Entomology 6 Hydraulics Chemistry 8a	Horticulture 6 Hydraulics Chemistry 8a Entomology 3
8:55	Sub-Freshman	Algebra I Physiology II English IV & V Penmanship and Spelling III	Algebra I Physiology II English IV & V Woodwork III (Boys) Gymnasium III (Girls)	Algebra I English V Woodwork V (Girls)	Algebra I Physiology II English IV & V Gymnasium III	Algebra I Physiology II English IV & V

Freshman	History I Gymnasium II Geometry III	Gymnasium II	History I Geometry III	History I Gymnasium II Geometry III
Sophomore	Chemistry II	Chemistry II	Chemistry I Dairy I English 2a I English 2a III	Chemistry II German I II
Junior	Adv. Physiology Physics 2	Home Economics Pedagogy 6 Phys. 2	Adv. Physiology Physics 2	Adv. Physiology Top. Survey Kinematics
Senior	Entomology 6 Needlework Bridge Stress German 3 Mach. Des. Pedagogy 4	German 3 Bridge Stress Mach. Des. Pedagogy 4	Dom. Science 10 German 3 Bridge Stress Pedagogy 4	German 3 Architecture Mach. Des. Pedagogy 4
Sub-Freshman	Physiology IV History 2, I English III Gym. I (II & V)	Physiology IV History 2, I English III Gym. I (II & V)	Physiology IV History 2, I English III Gym. I (II & V)	Physiology IV History 2, I English III Pennmanship & Spelling II & V
Freshman	Physics Geometry II History III	Physics Geometry II History III	Physics Geometry II History III Gymnasium (Girls)	Physics Geometry II History III
Sophomore	English 2a II English 2a III Latin I	Agronomy 9 German I II Gymnasium (Girls) Mechanics	CHAPEL	English 2a II English 2a III Latin I
Junior	Social Observ. R. R. Curves Wood Construction	Chemistry 2 R. R. Curves Wood Construction		Chemistry 2 Theo. of Cook. Elec. Engr. I
Senior	Bacteriology I Com. Usages Botany 6	Bacteriology I Com. Usages Botany 6		Bacteriology I Com. Usages Botany 6

8:55

9:50

Sub-Freshman	English II Algebra III & IV Physiology I & V	English II Woodwork (Girls) History 2 (I)	English II Algebra III & IV Physiology I & V	English II Algebra III & IV Physiology I & V
Freshman	Algebra I English II Public Speaking III	Algebra I Pub. Speaking III	Algebra I English II Gymnasium III	Algebra I English II Gymnasium III
Sophomore	Dairy Prac. Trigonometry Gymnasium (Girls)	History Sewing Latin I Trigonometry	History Botany 1b (Prac.) Trigonometry	Botany 1b (Prac.) Trigonometry History
Junior	English 3 Elec. Engr. 2a	English 3 Wood Construction	English 3	English 3
Senior	Dom. Science 11a Str. Materials Sociology 5 Feeds Chemistry 15	Home Nursing Str. of Materials Feeds Chemistry 15	Photometry Turbines (Prac.) Sociology 5 Feeds	Home Nursing Photometry Turbines (Prac.) Sociology 5 Feeds Chemistry 15
Sub-Freshman	Latin 1, III History 3, II Gym. 2 (I & IV) Algebra V	Latin 1, III History 3, II English IV Algebra V	Latin 1, III Gym. 2 (I & IV) Algebra V	Latin 1, III History 3, II Penmanship Spelling I & IV Algebra V
Freshman	Pub. Speaking I Algebra II English III	Gymnasium I Algebra II	Public Speaking I Algebra II English III	Algebra II English III Gymnasium I
Sophomore	Dairy (Prac.) German 1, I	Sewing Agronomy 9 German 1, II	Botany (Prac.) German 1, I	Dairy (Prac.) German 1, I
Junior	Sociology 2 German 2 English 2c (Pr.) Public Speaking 2 Botany 10	German 2 Sociology 2 English 2c (Pr.) Public Speaking 2 Botany 10	German 2 Sociology 2	Sociology 2 German 2 Botany 10

10:45

11:40

11:40	Senior	English 5 Elec. Engr. 8a	English 5 Alt. Cur.	English 5 Alt. Cur.	English 5 Turbines (Pr.)	English 5 Turbines (Prac.)
1:30	Sub-Freshman	Nature Study II	Nature Study I Drawing IV Penmanship Spelling III	Drawing V English	Drawing V Nature Study II	Nature Study I
	Freshman	Woodwork I Drawing II III Basketry I	Woodwork II Basketry II Blacksmith Stock Judging	Woodwork III Sewing I Physics I Public Speaking II	Woodwork I Drawing II and III Sewing II	Public Speaking II Woodwork III Stock Judging
	Sophomore	Chemistry I II Zoology (Agr.) Mech. Drawing	Chemistry I I	Chemistry I II Zoology (Agr.)	Chemistry I I Zoology II	Drawing 2a Mech. Drawing Zoology II
	Junior	Adv. Physiology Physics	Botany 2 Topo. Survey Adv. Mech. Draw. Botany 10	Adv. Physiology Elec. Engineering	Cooking R. R. Curves Mech. Lab. Chemistry 2	Botany 2 Blacksmithing Drafting
	Senior	Agronomy II Latin 3 Walls and Dams. Mach. Des.	Bacteriology Latin 3 Dom. Science 12a Arch. Details	Dairy 3 Horticulture 6 Hydraulics Mach. Des. Plumbing	Horticulture 6 Latin 3 Alt. Currents An. Husbandry 5	Entomology 3 and 6 Latin 3 Dom. Science 11a Str. of Materials Photometry Architecture
2:30	Sub-Freshman	Nature Study II Gym. 3 (III)	Nature Study I Drawing IV Gym. 3 (III) (Boys)	Drawing V Algebra III & IV	Drawing 3 Nature Study II	Nature Study I Gym. 3 (III)
	Freshman		Woodwork II			
	Junior		Topo. Survey. Adv. Mech. Draw. Botany 10		Chemistry 2 R. R. Curves Mech. Lab.	
	Senior		Arch. Details			

3:30	All Classes.....	Drill and Band	Music, Theory Public Sch. Music Vocal S. Reading	Drill and Band Prac.	Music, Theory Public School Music Vocal Sight Reading	Drill and Band Prac.
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NOTE—Hours for Differential Equations will be arranged at beginning of Fall Term.
 MONDAY—Sub-Freshman.—Woodwork IV (Boys), 8:00 to 10:00 a. m.; Freshman, Woodwork 10:00 to 12:00; Junior, Blacksmithing 8:00 to 12:00; Senior, Dairying, 8:00 to 12:00; Chemistry 8a, (Prac.), 8:00 to 12:00; Stock Judging, 1:00 to 3:00; Bridge Stresses 8:00 to 12:00; Chemistry 15 (Prac.) 1:00 to 5:00.

SCHEDULE

LECTURES, RECITATIONS AND AFTERNOON WORK

Session 1911-1912—Winter Term

TIME	CLASS	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Sub-Freshman	English I Algebra II Arithmetic III Latin I (IV) Civics I, (V)	English I Algebra II Arithmetic III Latin I, (IV) Civics I, (V)	English I Algebra II Arithmetic III Latin I, (IV) Civics I, (V)	English I Algebra II Arithmetic III Latin I, (IV) Civics I, (V)	English I Algebra II Arithmetic III Latin I, (IV) Civics I, (V)
	Freshman	English I History II Geometry III	English I History II Geometry III	Geometry III	English I History II Geometry III	English I History II Geometry III
	Sophomore	Chemistry 1, I An. Husb. 2a German 1b	English 2b I An. Husb. 2a Dom. Arts 2b	English 2b I Horticulture 1 German 1b	English 2b, 1 Horticulture 1 German 1b	English 2b, 1 Horticulture 1 German 1b
	Junior	Botany 3 Mathematics 6b Latin 2b	Botany 3 Mathematics 6b Latin 2b Drawing 3a	An. Husb. 3a Dom. Arts 6	An. Husb. 3a Mathematics 6b Latin 2b Drawing 3a	An. Husb. 3a Mathematics 6b Latin 2b
	Senior	Civil Eng. 14 Mech. Eng. 13b Agronomy 7 Pedagogy 2	Civil Eng. 14 Mech. Eng. 13b Agronomy 7 Pedagogy 2 Vet. Med. 3 Chemistry 8b	Elec. Eng. 8b Agronomy 7 Pedagogy 2 Entom. 4	Civil Eng. 14 Mech. Eng. 13 b Agronomy 7 Pedagogy 2 Vet. Med. 3 Chemistry 8b	Civil Eng. 14 Mech. Eng. 13 b Agronomy 7 Pedagogy 2 Chemistry 8b

8:55				
Sub-Freshman	English II Algebra IV Arithmetic V Civics 2 (I) Latin 2 (III)	English II Algebra IV Arithmetic V Civics 2 (I) Latin 2 (III)	English II Algebra IV Arithmetic V Civics 2 (I) Latin 2 (III)	English II, Algebra IV, Arithmetic V Civics 2 (I) Latin 2 (III)
Freshman	History I Gymnasium II Algebra III	History I Public Speaking II Algebra III	History I Public Speaking II Algebra III	History I Gymnasium II Algebra III
Sophomore	Chemistry I, II	Chemistry I, II Mil. Sci. I	Chemistry I, II Mil. Sci. I	Chemistry I, II
Junior	Physics 3 Dom. Science 4b Zoology 2	Physics 3 Vet. Med. I Agronomy 5 Pedagogy 7	Physics 3 Vet. Med. I Agronomy 5 Dom. Arts 6	Public Speaking Zoology 2
Senior	Civ. Eng. 15 Elec. Eng. 11 Mech. Eng. 15 Agronomy 8a Pedagogy 5	Civ. Eng. 10a Elec. Eng. 7b Arch. Eng. 9 Agronomy 8a Dairying 6 Dom. Sci. 11b	Civ. Eng. 15 Elec. Eng. 11 Mech. Eng. 15 An. Husb. 6 Dairying 6 Pedagogy 5 Horticulture 4	Civ. Eng. 15 Elec. Eng. 11 Mech. Eng. 15 Agronomy 8a Dom. Sci. 13a Pedagogy 5
9:50				
Sub-Freshman	Arithmetic I & IV English III Mil. Sci. 2 (II & V)	Arithmetic I & IV English III Gymn. I, (II & V)	Arithmetic I & IV English III Gymn. I, (II & V)	Arithmetic I & IV English III Pennanship & Spelling II & V
Freshman	Gymnasium I Geometry II English III	Public Speaking I Geometry II English III	Public Speaking I Geometry II English III	Gymnasium I Geometry II English III
Sophomore	History 2 German 1b Dom. Science 1a	History 2 Agronomy 2 (Pr.) Dom. Sci. 2a	History 2 German 1b Color Theory Dom. Arts 11b	History 2 German 1b German 2b
Junior	German 2b Civ. Eng. 10a Soc. Sci. 3 Chemistry 4	German 2b Civ. Eng. 10a Soc. Sci. 3 Chemistry 4 Zoology 2	Civ. Eng. 10a Soc. Sci. 3 Chemistry 4 Zoology 2	German 2b Civ. Eng. 10a Soc. Sci. 3

9:50	Senior	Civ. Eng. 16 Mech. Eng. 17 Horticulture 7 English 6	Civ. Eng. 21 Mech. Eng. 16 (Pr.) Arch. Eng. 9 (Pr.) Horticulture 5 English 6	Civ. Eng. 16 Elec. Eng. 9 Arch. Eng. 8 Horticulture 5 English 6
10:45	Sub-Freshman	Algebra I & III Arithmetic II English IV & V	Algebra I & III Woodwork II English IV & V	Algebra I & III Arithmetic II English IV & V
	Freshman	Geometry I English II Public Speaking III	Military Science	Geometry I English II Gymnasium III
	Sophomore	Math. 4a I & II Agronomy 2	Math 4a II Agronomy 2	Math. 4a II Agronomy 2
	Junior	English 4a Mech. Eng. 11a	English 4a Mech. Eng. 11a	English 4a Mech. Eng. 11a
	Senior	Arch. Eng. 9 (Pr.) Mech. Eng. 16 (Pr.) An. Husb. 7a Dairying 5 Zoology 4 Botany 7 & 8 Latin 3b	Arch. Eng. 9 (Pr.) Mech. Eng. 16 (Pr.) An. Husb. 7a Dairying 5 Botany 7, 8 Latin 3b	Civil Eng. 14 Elec. Eng. 10 An. Husb. 7a Dairying 5 Dom. Arts 10a Latin 3b
11:40	Sub-Freshman	Gym. 2, (I & IV) Civics 3 (II) Etymology III Algebra V	CHAPEL	Penmanship and Spelling I & IV Civics 3 (II) Etymology III Algebra V
	Freshman	Agronomy 10 Algebra II History III		Agronomy 10 Algebra II History III
	Sophomore	Mech. Eng. 7a English 2b II English 2b III Latin 1b		Elec. Eng. 1b English 2b II English 2b III Latin 1b

Junior	Dairying 2 Mech. Eng. 3b Soc. Sci. 6	Arch. Eng. 9 (Pr.) Mech. Eng. 16 (Pr.) Agronomy 12 An. Husb. 6 Dairying 4 Dom. Sci. 8b German 3b Horticulture 4	Dairying 2 Mech. Eng. 3b Soc. Sci. 6 Dom. Sci. 5b Chemistry 7	CHAPEL	Elec. Eng. 1b Soc. Sci. 6 Dom. Sci. 6b Chemistry 7 Arch. Eng. 12a Mech. Eng. 16 Agronomy 12 An. Husb. 6 Dairying 4 Horticulture 4 German 3b	Dairying 2 Elec. Eng. 1b Soc. Sci. 6 Dom. Sci. 5b
11:40	Senior					
1:30	Sub-Freshman	Etymology IV	Etymology IV Drawing II	Civics 3 (II)	Etymology IV Drawing I	Etymology IV
2:30	Sub-Freshman	Gymn. 1 (II & V) Penn. & Spell. III Mil. Sci. 1 (I & IV)	Gymn. 3 (III) Etymology V	Gymn. 3, (III) Etymology V Mil. Sci. 3 (III) Arithmetic II	Etymology V	Gymn. 3 (III) Etymology V
3:30	Freshman	Woodwork I Drawing II & III	Woodwork II Dom. Arts 3b Stock Judging I	Woodwork III Dom. Arts 1b II Agronomy (to 2:30)	Woodwork I Drawing II & III	Woodwork III Stock Judging I Dom. Arts 1b III
1:30 to 3:30	Sophomore	Chemistry 1, I An. Husb. 2a	Mech. Eng. 6b Chemistry 1, II Dom. Sci. 3a, I	Chemistry 1, I An. Husb. 2a Color Theory	Mech. Eng. 6b Chemistry 1, II Dom. Sci. 3a, II	Mech. Eng. 6b Horticulture 1
	Junior	Physics Vet. Med. 1 Agronomy 5 Dairying 2 Dom. Sci. 7b	Mech. Eng. 10b Civil Eng. 4 Botany 3 Zoology 2	Elec. Eng. 1b Arch. Eng. 2 Zoology 2	Mech. Eng. 10b Civil Eng. 4 Vet. Med. 1 Agronomy 5 Dairying 2 Dom. Arts 7	Elec. Eng. 2b Mech. Eng. 3b Arch. Eng. 2 Chemistry 7
	Senior	Civil Eng. 14 Elec. Eng. 9 Horticulture 4 An. Husb. 6a Agronomy 12 Zoology 4 Chemistry 8b	Civ. Eng. 13a Elec. Eng. 7b Bacteriology 2 Zoology 4	Civ. Eng. 13a Mech. Eng. 15 Agronomy 8a Entomology 4 Dom. Sci. 14a	Civ. Eng. 13a Mech. Eng. 15 Horticulture 4 Agronomy 12 Dairying 5 An. Husb. 7a	Civ. Eng. 13a Bacteriology 2 Botany 7, 8 Entomology 4 Dom. Sci. 11b

3:30	Sophomore	Gym. (women)	Dom. Sci. 3a, II	Gym. (women)	Dom. Sci. 3a, I	Gym. (women)
	Junior	Drawing 3a Military Science	Debating	Drawing 4a		Chemistry 7
	Senior	Chemistry 8b		Military Science		
	All Classes.....		Drill		Drill	

MONDAY.—Sub-Freshman Woodwork I, 9:50 to 10:45; Freshman, Woodwork II 8:00 to 9:50; Sophomore M. E. 7a 1:30 to 3:30; Junior A. E. 2, 1:30 to 3:30; Senior, Dairying 4 (Pr.) 6 hours.

NOTE.—Hours for Domestic Science 12b and for Animal Husbandry 10 will be arranged at the beginning of the term.

Freshmen of Section I are Agricultural students.
Sophomores of Section I are Engineering students.

SCHEDULE LECTURES, RECITATIONS AND AFTERNOON WORK Session 1911-1912—Spring Term

TIME	CLASS	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00	Sub-Freshman	Drawing II & I Nature Study I, III	Drawing 2, II, III & IV	Nature Study 2, IV Physical Geog. 1, I	Nature Study 1, III Woodwork 1, I & II Penmanship & Spelling IV, V	Drawing 3 (IV, V) 8 II) 2 4:00p.m.
	Freshman	English I Algebra II Geometry III	English I Algebra II Geometry III	Military Science I Geometry III	English I Algebra II Geometry III	English I Geometry III
	Sophomore	Chemistry 1c I Horticulture 2	Horticulture 2 German 1c Latin 2c	German 1c Latin 2c Agronomy 3	Horticulture 2 German 1c Latin 2c	Horticulture 2 German 1c Latin 2c
	Junior	Pedagogy 3 An. Husb. 3b Applied Mechanics	Pedagogy 3 Applied Mechanics Botany 4 Gen. Biology (Zoo.)	Pedagogy 3 An. Husb. 3b Steam Boilers (Pr.) Orders of Arch.	Pedagogy 3 Applied Mechanics Botany 4 Gen. Biology (Zoo.) Dom. Arts 8	Pedagogy 3 An. Husb. 3b Applied Mechanics

8:00	Senior	Agronomy 8 Bacteriology 3 Elec. Power Plants Social Science 7	Agronomy 8 Chemistry 5 Elec. Power Plants Social Science 7	Bacteriology (Pr.) Contracts	Agronomy 8 Chemistry 5 Elec. Power Plants Social Science 7	Agronomy 8 Bacteriology 3 Elec. Power Plants Social Science 7 Dom. Arts 10b
	Sub-Freshman	Drawing 1, I & II Nature Study 1, III Mil. Sci. 3, IV & V	Drawing 2, II, III, IV Etymology I	Nature Study 2, IV Etymology I English II & III Algebra V	Nature Study 1, III Woodwork 1, I & II Nature Study 2, IV	Drawing 3 (IV V) Woodwork 2 (II & III) Etymology I Nature Study 2
	Freshman	Botany 1a II	Algebra III Gym. I & II	Botany 1a II	Algebra III Gym. I & II	Botany 1a II Algebra III
	Sophomore	Chem. 1c II	Chem. 1c I An. Husb. 2b	Chem. 1c II Entomology	Chem. 1c I An. Husb. 2b	Chem. 1c II
	Junior	Entomology 1 Thermodynamics Roof Trusses	Entomology 2 Thermodynamics Roof Trusses Pub. Spkg. 2	Entomology 1 Roads & Pavements Building Plans Dom. Arts	Entomology 2 Roads & Pavements Electro Chemistry Pub. Spkg. 2	Entomology 1 Roads & Pavements Electro Chemistry Dom. Sci. 4c
8:55	Senior	Agronomy 13 Entomology 5 Alternating Curs. Dom. Arts 10b History 4	Agronomy 6 Pedagogy 8 Alternating Curs. Dom. Sci. 13b	Agronomy 13 Entomology 5 Machine Design Dom. Science 17 Bacteriology (Pr.) History 4	Agronomy 6 Pedagogy 8 Machine Design Dom. Science 12	Agronomy 13 Entomology 5 Machine Design Dom. Arts 10b History 4
	Sub-Freshman	English II & III Physical Geog. 1, I Algebra V	English II & III Physical Geog. 1 (I) Algebra V		English II & III Physical Geog. 1, IV Nature Study 2, IV Algebra V	English II & III Physical Geog. 1 (I) Algebra V
	Freshman	Agronomy 1 Physics II Gymnasium III	Agronomy 1 Physics II Gymnasium III	CHAPEL	Agronomy 1 Physics II Gymnasium III	Agronomy 1 Physics II
	Sophomore	German 1c English 2c II English 2c III Math. 4b I & II Dom. Arts 5	German 1c English 2c II English 2c III Math. 4b I & II Entomology		German 1c English 2c II English 2c III Math. 4b I Dom. Arts 4b	German 1c English 2c II English 2c III Math. 4b II
9:50	Sub-Freshman	English II & III Physical Geog. 1, I Algebra V	English II & III Physical Geog. 1 (I) Algebra V		English II & III Physical Geog. 1, IV Nature Study 2, IV Algebra V	English II & III Physical Geog. 1 (I) Algebra V
	Freshman	Agronomy 1 Physics II Gymnasium III	Agronomy 1 Physics II Gymnasium III	CHAPEL	Agronomy 1 Physics II Gymnasium III	Agronomy 1 Physics II
	Sophomore	German 1c English 2c II English 2c III Math. 4b I & II Dom. Arts 5	German 1c English 2c II English 2c III Math. 4b I & II Entomology		German 1c English 2c II English 2c III Math. 4b I Dom. Arts 4b	German 1c English 2c II English 2c III Math. 4b II

9:50	Junior	History of Arch. Chemistry 14 Social Science 4 Domestic Science 6c	History of Arch. Chemistry 14 Social Science 4	Social Science 4 Domestic Science 4c
	Senior	Dairy 7 An. Husb. 7b Horticulture 3 (Pr.) German 3c Water Supply Heating & Ventilating	CHAPEL Dairy 7 An. Husb. 7b Horticulture 3 German 3c Water Supply Heat. & Ventilating Switch Boards	Dairy 8 An. Husb. 7b Horticulture 3 German 3c Water Supply Chemistry 5 Dom. Science 13b
10:45	Sub-Freshman	Algebra I & IV Latin I, III Phys. Geog. 2, II English V	Algebra I & IV Latin I, III Phys. Geog. 2, II English V	Algebra I & IV Latin I, III Phys. Geog. 2, II English V
	Freshman	Geometry 1 English 2	Geometry 1 Mil. Sci. II	Geometry 1 English 2
	Sophomore	Astronomy Agronomy 4 Latin 1c	Astronomy Latin 1c Dom. Sci. 2b	Astronomy Agronomy 4
	Junior	English 4b Elec. Eng. 2c Dom. Arts 8	English 4b	English 4b Elec. Eng. 2c
11:40	Senior	Social Science 8 Col. & Exp. St. Wk. Contracts Dom. Science 17	Military Science Dom. Science 11c	Social Science 8 Col. & Exp. St. Wk. Contracts Dom. Science 16
	Sub-Freshman	English I Algebra II Latin 2, IV Phys. Geog. 3, V	English I Algebra II Pen. & Spell. III Phys. Geog. 3, V Latin 2 IV	English I Algebra II Latin 2, IV Phys. Geog. 3, V

Freshman	Botany 1a I Geometry 2 English 3	Gymnasium 1 Geometry 2 English 3	Botany 1a I Geometry 2 English 3	Geometry 2 English 3
Sophomore	Military Science Gym. (Girls)	English 2c I History 3	English 2c I History 3	English 2c I History 3
Junior	Agri. Chemistry Math. 6c I & II German 2c Domestic Arts 8	Agri. Chemistry Math. 6c I & II German 2c	Agri. Chemistry Math 6c I German 2c	Agri. Chemistry Math. 6c II
Senior	English 7 Estimates Latin 3c Elec. Engineering Botany 9	English 7 Estimates Latin 3c Teleph. & Teleg. Dom. Science 11c	English 7 Superintendence Latin 3c Teleph. & Teleg. Botany 9	English 7 Superintendence Latin 3c Wireless Telegraph Botany 9
Sub-Freshman	Algebra III English IV Etymology II	Etymology II	Nature Study 3 (V) Mil. Sci. 2 (II III & IV)	Algebra III English IV Etymology II
Freshman	Botany 1a I Dom. Arts 1c I Physics I Gymnasium II	Public Speaking Dom. Arts 1c II	Dom. Arts 1c II Physics V	Public Speaking Botany 1a II Physics VI
Sophomore	Agromony 4 Chemistry 1 (2) Drawing I	An. Husb. 2b Chemistry 1 II 2 Drawing I	Chemistry I Dom. Sci. 3b I Drawing II	Agromony 3 Dom. Sci. 3b II
Junior	Entomology 1 Mech. Drawing Roof Trusses Electro Chem (E. E. 15) Dom. Sci. 7	Entomology 2 Botany 4 Roof Trusses Elec. Wiring Biology	Entomology I Elec. Wiring II Biology	Chemistry 14 Building Plans Machine Shop I Mech. Lab. II
Senior	Col. & Exp. St. Wk. Bridge Design Machine Design Botany 9	Horticulture 8 Agromony 6 Dairying 7 Dom. Sci. 14b Elec. Power Plants Bridge Design	Agromony 8 Dom. Sci. 12c Botany 9 Alternating Cur. Arch. Eng. Thesis Bacteriology 3 Chemistry 5 Civ. Eng. Thesis	Dairying 8 Entomology 5 Veterinary Medicine Arch. Eng. Thesis Civil Eng. Thesis

11:40

1:30

	Sub-Freshman	Gymnasium	Algebra III English IV Penmanship & Spelling I II & V	Nature Study 3 (V) Mil. Sci. I, I & II English IV Algebra III	Nature Study 3 (V) Algebra III English IV Etymology I	Gymnasium
2:30	Freshman	Dom. Arts 1c I Physics II	Dom. Arts 1c I	Dom. Arts 1c I Physics IV	Dom. Arts 1c II	
	Sophomore			Dom. Sci. 3b III	Entomology Dom. Sci. 3b III	
	Junior	Mech. Drawing Roof Trusses Electro. Chemistry (E. E. 15)		Mech. Lab. I Orders of Arch. Machine Shop II	Military Science	Chemistry 14 Machine Shop I Building Plans Mech. Lab. II
	Senior	Bridge Design Machine Design	Dom. Science 16 Chemistry 5	Arch. Eng. Thesis	Chemistry 5	Arch. Eng. Thesis Civil Eng. Thesis
3:30	Sub-Freshman			Gymnasium		Botany 1a II
	Freshman	Botany 1a I				
	Senior	Bridge Design		Pub. School Music Music Theory	Band and Drill	
	All Classes	Pub. School Music Music Theory	Band and Drill			

MONDAY.—Sub-Freshman, Woodwork 3 (III & IV) 8:00 to 9:50; and 4 (IV and V) 10:00 to 12:00.

Senior E. E. 16, 10:00 to 12:00 a. m., and 1:00 to 5:00 p. m.

Senior, Machine Shop, 8:00 to 12:00 a. m., and 1:00 to 5:00 p. m.

Hours for Animal Husbandry 11 will be arranged at the beginning of the term.

BUSINESS DIVISION SCHEDULE

Session 1911-1912—Fall Term

TIME	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00 A. M.	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation
8:55 A. M.	English	English	English	English	Spelling & Penmanship
9:50 A. M.	Penmanship & Spelling	Penmanship & Spelling	CHAPEL	Penmanship & Spelling	Gymnasium
10:45 A. M.	Commercial Law Intermediate Shorthand	Commercial Law Intermediate Shorthand	Gymnasium	Commercial Law Intermediate Shorthand	Commercial Law Intermediate Shorthand
11:40 A. M.	Arithmetic	Arithmetic	Arithmetic	Gymnasium	Arithmetic
1:30 P. M.	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping
2:30 P. M.	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping

Typewriting Department is in session from 8:00 to 3:30.

BUSINESS DIVISION SCHEDULE

Session 1911-1912—Winter Term

8:00 A. M.	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation	Beginner's Shorthand Dictation
8:55 A. M.	English	English	English	Gymnasium	Spelling & Penmanship

BUSINESS DIVISION SCHEDULE Session 1911-1912—Spring Term

Typewriting Department is in session from 8:00 to 3:30.

9:50 A. M.	Spelling & Penmanship	Spelling & Penmanship	Dictation	Gymnasium	Gymnasium
10:45 A. M.	Arithmetic	Arithmetic	Gymnasium	Spelling & Penmanship	Arithmetic
11:40 A. M.	Dictation Beginner's Dictation Commercial Law	Dictation Beginner's Dictation Commercial Law	CHAPEL	Dictation Beginner's Dictation Commercial Law	Commercial Law
1:30 P. M.	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping
2:30 P. M.	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping

8:00 A. M.	Dictation 1 Beginner's Shorthand	Dictation 1 Beginner's Shorthand	Dictation 1 Beginner's Shorthand	Dictation 1 Beginner's Shorthand	Dictation 1 Beginner's Shorthand
8:55 A. M.	English	English	English	English	Gymnasium
9:50 A. M.	Dictation 1 Dictation 2	Dictation 1 Dictation 2	CHAPEL	Dictation 1 Dictation 2	Dictation 1 Dictation 2
10:45 A. M.	Spelling & Penmanship	Spelling & Penmanship	Gymnasium	Spelling & Penmanship	Spelling & Penmanship
11:40 A. M.	Arithmetic	Arithmetic	Arithmetic	Gymnasium	Arithmetic
1:30 P. M.	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping
2:30 P. M.	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping	Bookkeeping

Typewriting Department is in session from 8:00 to 3:30.

TABLE OF CONTENTS

Chart of A. & M. College.....	II
College Calendar.....	III
Board of Regents.....	IV
Faculty.....	V
Instructors.....	VII
Officers.....	IX
Committees of the Faculty.....	X
Application Blank.....	XI
Laws Concerning the College.....	1
Educational Policy.....	3
New State Schools of Agriculture.....	3
Financial Policy.....	4
Graduates of the College.....	5
Scope of Instruction.....	5
Instruction for Teachers.....	5
Purposes.....	7
Land and Buildings.....	8
New Buildings.....	10
Equipment.....	11
Requirements for Admission.....	12
To the Sub-Freshman Class and Business Course.....	13
To the Freshman Class.....	13
To Advanced Standing.....	13
Approved Schools.....	13
Admission of other applicants.....	14
Cost of Attendance.....	14
Board and Rooms.....	14
Other Expenses.....	15
Amount Required to Begin.....	15
Care of Health.....	16
Help.....	17
Education at Home.....	17

Advisers to Students	16
General Information	18
How to Reach College.....	18
Moral Influences.....	19
Examinations.....	19
The Honor System.....	19
Grades and Reports.....	20
Thesis.....	20
Graduation Fee.....	20
Library.....	21
Literary and Other Societies.....	21
Of Interest to Girls.....	21
Athletics, Military Drill and Discipline.....	22
Honor Students.....	23
Prizes.....	23
The Young Men's Christian Association.....	24
The Young Women's Christian Association.....	25
Divisions of College Instruction	25
Agricultural Division	27
Courses in Agriculture.....	29
Outline of Four-Year Course in Agriculture.....	30
Department of Animal Husbandry.....	32
The Farm.....	35
Department of Agronomy.....	36
Department of Dairy Husbandry.....	40
Department of Horticulture and Botany.....	42
Department of Short Courses.....	45
Department of Agriculture for Schools.....	53
Oklahoma Boys' and Girls' Junior Agricultural Clubs.....	54
Experiment Station.....	58
Engineering Division	59
Outline of Courses, Engineering Division.....	60
Department of Mechanical Engineering.....	62
Department of Electrical Engineering.....	68
Department of Civil Engineering.....	73
Department of Architectural Engineering.....	76
Domestic Science and Arts Division	80
Outline of Courses, Domestic Science and Arts Division.....	81
Department of Domestic Science.....	82
Department of Domestic Arts.....	86
Department of Drawing and Art Work.....	90

Science and Literature Division	93
Outline of Courses, Science and Literature Division.....	95
Department of Zoology and Veterinary Medicine.....	97
Department of Chemistry.....	99
Department of Entomology.....	103
Department of English and Public Speaking.....	105
Department of Mathematics.....	108
Department of Political Economy and Social Science.....	110
Department of German and Latin.....	112
Teachers' Normal Division	114
Outline of Courses, Teachers' Normal Division.....	115
Department of Pedagogy and History.....	117
Business Division	121
Outline of Course of Study, Business Division.....	122
Business Course.....	122
Stenographic Course.....	124
Other Departments of the College	
Sub-Freshman Department.....	125
Department of Music.....	128
Department of Physical Training for Men.....	132
Department of Physical Training for Women.....	135
Military Department.....	137
Department of District Agricultural Schools.....	142
Specimen Entrance Examination Questions	144
Sub-Freshman Class and Business Course.....	144
Freshman Class.....	145
Sophomore Class.....	147
Official List of Textbooks, with Prices	149
Agricultural Division.....	149
Engineering Division.....	151
Domestic Science and Arts Division.....	154
Science and Literature and Teachers' Normal Divisions.....	155
Business Division.....	157
Sub-Freshman Department.....	158
Alumni	159
Roll of Students	165
Summary of Students by Classes	184
Schedule of Recitations 1911-12	185





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